Living and caring for yourself at home after a stem cell transplant requires special care and attention for the first 100 days after the transplant. This factsheet provides important information to help you care for yourself at home.

Preventing Infections

Infection is one of the biggest risks patients face after a bone marrow or stem cell transplant. The treatments received before the transplant temporarily disable your immune system. You will be given medicines to prevent infections while your body cannot fight them, but both you and your caregiver must make every effort to keep infections away. It can take up to a year for the immune system to recover completely.

Everyone carries germs on the skin and inside the body that do not cause problems unless a person has a weakened immune system. Transplant patients are at high risk for infections caused by these usually harmless germs. Sneezing, coughing, or touching surfaces or other people can transfer germs.

The most important thing you can do to prevent infections is to use good hand washing techniques:

- Use plenty of soap and warm water. Scrub your hands for at least 15 seconds (recite the alphabet—that’s about 15 seconds). The friction removes germs, and the water washes them away.
- Rinse well and dry hands using paper towels.
- Turn off water using the paper towel.
- Use gel sanitizers when you aren’t able to wash hands with soap and water. Gel sanitizer comes in small, easy-to-carry containers.
- Remember, whether using soap or gel sanitizer, the friction removes the germs.

EVERYONE must wash or sanitize their hands: family members, friends, nurses, doctors, and, of course, the caregiver and patient.

Wash your hands at these times:

- Before eating, drinking, or taking medication
- After using the bathroom
- Before preparing meals
- Before and after any kind of physical care such as oral care, central line care, and connecting IV tubing
- After touching the eyes, nose, mouth, or any part of the face
- After touching things in your home that others touch frequently
- After shaking hands
- After public outings

Personal Hygiene for Patients

Your skin is the first line of defense against infection. These personal hygiene practices will lower the number of germs on the skin that can cause infections:

- Shower daily using a mild soap.
- Wash hair or head daily using a mild shampoo.
- Check skin daily for rashes, bruising, redness, or swelling. Keep skin folds clean and dry, including genital and rectal areas.
- Change wet or damp central line dressings right away.
- Change towels daily.
- Do not share towels with anyone.
- Brush teeth with a soft-bristled toothbrush after each meal and at bedtime. Floss with caution if your platelet count is low, and stop flossing if bleeding occurs.

Avoid Dangerous Exposures

Crowds of people raise exposure to harmful germs and viruses. Construction sites and homes that are being remodeled are also hot spots for bacteria that can cause pneumonia.

The following activities involve close contact with materials high in harmful germs. DO NOT do any of the following:

- Touch human or animal excrement
- Change baby diapers
- Touch bird droppings
- Clean an aquarium
- Clean up after pets
• Sit on grass, logs, or dirt without a blanket
• Allow skin to touch soil, lawn waste, or compost
• Change the water in flower arrangements
• Handle plants

Reducing the Risk of Falls at Home
• Make sure all throw rugs are removed or secured.
• Wear nonslip socks, slippers, and shoes.
• Turn on lights at night when getting up. Try to leave a nightlight on.
• Sit on the edge of your bed before standing when getting up and down.
• Choose to sit in chairs with arm rests to help you get up and down.
• Reach back with your hands for the chair when you sit down.
• Push up from the chair when you stand up. Do not reach for the walker.
• Go sideways down the stairs, holding the railing with both hands.
• Use a cane or walker when walking, instead of reaching for furniture.
• Move furniture so you have clear paths to walk through.
• Use grab rails when getting in and out of the bathtub. Use a stool in the bathtub if your physical therapy staff tells you to.
• Use grab rails when getting on and off the toilet.

Skin Care and Protection from the Sun
High-dose chemotherapy and total body irradiation raise your risk of skin cancer, so you must avoid getting sunburned. Sunburn can also cause and aggravate graft-versus-host disease. Be especially careful to avoid sunburns for the rest of your life. Your skin may become more sensitive to soaps and detergents. If this happens, use hypoallergenic, unscented soaps and detergents.

Dermatologists at Huntsman Cancer Institute (HCI) recommend the following ways to protect your skin from the sun:
• Avoid the sun between 10 a.m. and 4 p.m.
• Use broad-spectrum sunblock containing titanium dioxide or zinc oxide with a minimum SPF of 30.
• Apply sunblock 20 minutes before sun exposure and 20 minutes after you go outdoors. Reapply generously every two hours.
• Wear protective clothing: wide-brimmed hat, long-sleeved shirt, long pants, and sunglasses.

Activity and Exercise

Outdoor Activities
Avoid activities that may raise your risk of infection. For example, walking through the woods may raise your risk of fungal infections because you can disturb decaying leaves and dirt, which release fungus spores into the air. These spores can cause fungal pneumonia if you breathe them in. Fishing or swimming may also raise your risk of infection from organisms in the water. Avoid construction sites because of the dust and disturbed soil.

Please ask your Blood and Marrow Transplant (BMT) providers which outdoor activities are safe for you as your immune system recovers.

Travel
Car travel: You may remove your mask during car travel if you keep the windows and vents closed. You can get a lot of sun exposure even through closed windows, so wear long-sleeved clothing or use a window shade. If using the air conditioner, use the recirculation setting so air is not drawn from outside.

Airplane travel: Avoid airplane travel while you are on immunosupression. You must avoid exposure to crowds in close quarters. Also, airplanes recirculate the air, which often contains bacteria and other organisms that can cause infection.

Fatigue
You may be more fatigued than you expect, especially for the first few months after your transplant. Listen to your body and allow rest periods during exercise. Gradually increase your level of activity.

Exercise
All patients need to exercise. However, if your treatment regimen includes steroids, it is especially important that you do weightbearing exercise to prevent muscle wasting associated with these drugs.
Develop an exercise plan and set goals. HCI’s exercise specialists with the Linda B. and Robert B. Wiggins Wellness Center work with you to design exercise plans based on your diagnosis, treatment type and phase, and personal fitness goals.

Walking and riding a stationary bike provide excellent exercise. Do not participate in vigorous exercise or contact sports, and avoid swimming or using hot tubs.

**Sexual Activity**

It is safe to resume sexual activity after chemotherapy and transplant. Men who have had BMT and partners of women who have had BMT should use latex condoms. This practice serves two purposes: it lowers the risk of infection and prevents untimely pregnancies.

Spermicides may irritate the penis or vagina. Even though chemotherapy and radiation can cause sterility, you must still use condoms to prevent infection. Anal intercourse is not recommended for at least 100 days after your transplant. Oral sex is acceptable if the partner has no sores of the mouth, lip, or genitals. Herpes virus can be transmitted even when lesions are not present.

Decreased sexual desire is normal after transplant due to changes in hormone levels, anxiety, or depression. The chemotherapy and radiation cause changes in hormone levels. We routinely check hormone levels at 100 days post-transplant and prescribe hormone replacement if needed. Remember that sex is a function of the mind and body. It takes time for both to heal. Some antidepressant agents can affect sexual function. Do not hesitate to discuss any concerns, problems, or discomfort with your nurse or doctor.

**Men**

Chemotherapy and/or radiation therapy may cause brown or orange semen. This is temporary.

**Women**

Chemotherapy and/or radiation therapy can cause vaginal dryness. To prevent trauma to the tissue during intercourse, use a water-soluble lubricant. Oil-based lubricants such as Vaseline are not recommended. As part of your follow-up care, you will have an appointment with a gynecologist.

Discuss your specific concerns at this time. The gynecologist may prescribe hormone replacement therapy to ease your symptoms.

These two helpful booklets from the American Cancer Society are available in the BMT Unit:

- *Sexuality and Cancer: For the Man Who Has Cancer and His Partner*
- *Sexuality and Cancer: For the Woman Who Has Cancer and Her Partner*

If you prefer, you can call 1-800-ACS-2345, and the American Cancer Society will mail the booklet to you.

**Commonly Asked Questions**

**How long do I have to wear a mask?**

The HEPA filter mask protects you against airborne infections, which develop when bacteria, viruses, or fungi are breathed into the lungs.

You must wear your HEPA filter mask when you come to the hospital for appointments and when you are in crowds for at least six months after transplant or until one month off all immunosuppression (cyclosporine, tacrolimus, or prednisone). On windy days, you need to wear your mask when outdoors. Avoid construction areas. Your BMT providers will determine the length of time you should wear your mask. Be sure to follow their instructions.

**Do I need a caregiver at all times?**

Yes, 24 hours a day.

**Do I need to avoid people with the flu or a cold?**

Yes, you must avoid people who are sick. All caregivers and family members should get flu shots. Caregivers should not get the nasal mist flu vaccine.

**Do I need to avoid people who have had immunizations?**

You need to avoid young children who have had live vaccines. Avoid people who have received the chicken pox vaccine for at least two weeks after their vaccination. Oral polio vaccines also carry a risk, but they are no longer given in the United States. Discuss this with a pediatrician.
If you are exposed to chicken pox or herpes zoster (shingles), call your BMT providers immediately. Shingles causes blisters that may appear on your neck, face (especially near the mouth), or trunk area below your rib cage. If you notice these blisters, notify your BMT providers immediately.

After the one-year workup and the end of therapy to suppress the immune system, healthy patients free of chronic graft-versus-host disease get immunizations such as tetanus, MMR, and polio vaccines.

Will a dog in the home increase my risk of infection?
In general, dogs do not carry germs that are harmful to humans. If the dog licks you, wash the area with soap and water. You may pet or cuddle your dog. Do not allow the dog to lie on your bedding. Wash your hands after playing with the dog. Avoid cleaning up dog excrement. Avoid new puppies that bite or scratch, as this can cause infection.

If your dog is outside often and brings dirt in on its paws, you may want to think about boarding your animal while you are on immunosuppression. Talk to your BMT provider about this.

What about cats?
Cats pose more problems than dogs because their sharp claws can easily scratch your skin, exposing you to infection. The same general rules apply as for dogs, but take extra care to avoid being scratched. Cat feces can carry a germ that causes toxoplasmosis, a serious disease. Do not handle cat feces or change litter boxes.

What about other animals?
Avoid birds, reptiles, and farm animals. They are more likely to carry harmful diseases.

Do I need to limit contact with plants or avoid doing gardening work?
Yes. Limit your contact with plants for at least 100 days, or until you are released from the care of the BMT service. Plants may remain in the house but do not keep them in the room where you sleep. Do not repot plants, work in the garden or yard, or mow the lawn until you are off all immunosuppressors.

Can I use a fan?
You may use fans to circulate air. You should clean the blades three times weekly. It is best to keep the windows closed.

When can I return to work or school?
Under the best circumstances, we suggest waiting one year after your transplant before returning to work or school. Your bone marrow is still recovering, and it will take at least a year for your immune system to function normally. You may still be taking a considerable amount of medication, you may need transfusions, or you may have chronic graft-versus-host disease, in which case you cannot safely return to work or school. Until your immune system is functioning normally, you cannot afford the risks of exposure to communicable diseases that work or school pose.
Safe Activities, Places, and Contacts

The chart below is a quick guide to which activities, places, and contacts are safe during the first 100 days after transplant. If you have questions about any of these activities, please talk with your BMT provider or nurse. Your nurses will tell you whether you are in Category A or Category B. After the first 100 days, ask your providers if there are any changes to safe activities and places.

<table>
<thead>
<tr>
<th>Can I go to, do, or be around . . .?</th>
<th>Category A</th>
<th>Category B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Taking ONE immunosuppressive medication and/or steroids ≤ 0.5 mg/kg</td>
<td>Taking TWO immunosuppressive medications and/or steroids &gt; 0.5 mg/kg</td>
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<tr>
<td>Example: Either tacrolimus or cyclosporine</td>
<td>Example: tacrolimus and mycophenolate (MMF)</td>
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<tr>
<td>Church</td>
<td>Yes (arrive late, leave early, no handshaking, wear a mask)</td>
<td>No</td>
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<tr>
<td>School or work</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Crowds</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Restaurants</td>
<td>Yes (follow diet guidelines)</td>
<td>No</td>
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<tr>
<td>Fast food/ drive-through</td>
<td>Yes (follow diet guidelines)</td>
<td>No</td>
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<tr>
<td>Animals</td>
<td>See below.</td>
<td>See below.</td>
</tr>
<tr>
<td>Cats</td>
<td>Yes (do not handle feces, sleep with a cat, or be with a new cat)</td>
<td>Yes (do not handle feces, sleep with a cat, or be with a new cat)</td>
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<tr>
<td>Dogs</td>
<td>Yes (do not handle feces, sleep with a dog, or be with a new dog)</td>
<td>Yes (do not handle feces, sleep with a dog, or be with a new dog)</td>
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<td>Small caged pets</td>
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<td>No</td>
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<td>Reptiles</td>
<td>No</td>
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<td>Zoo animals</td>
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<td>Livestock</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Construction sites</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Spectator events, movies, games</td>
<td>Yes (no handshaking, avoid crowds, wear a mask)</td>
<td>No</td>
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<td>Airline travel</td>
<td>No</td>
<td>No</td>
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<td>Hot tub</td>
<td>No</td>
<td>No</td>
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<td>Swimming, water parks</td>
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<td>No</td>
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<td>Gardening</td>
<td>No</td>
<td>No</td>
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<td>Mow the lawn</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Carpentry work</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Remember these general rules:
- Wash hands often. This is the best way to prevent infection.
- Avoid crowds.
- Wear sunscreen.