

Sergio A. Giralt, MD

Professor of Medicine
Weill Cornell College of Medicine
Chief, Adult Bone Marrow Transplant Service
Memorial Sloan-Kettering Cancer Center
New York, New York

How do I manage the side effects of stem cell transplantation?

My name is Sergio Giralt and I am the service chief of the Adult Bone Marrow Transplant Service at Memorial Sloan-Kettering Cancer Center in New York City. I am often asked how to manage the side effects of stem cell transplantation. When asked this question, I advise patients that they should divide their transplant in 5 phases.

The first phase is the chemotherapy phase. Ninety percent of patients in North America will receive high-dose melphalan as the conditioning regimen for their stem cell transplantation. This drug is very well tolerated. With the use of 5-HT3 antagonist and dexamethasone, nausea and vomiting are rarely a problem. We request that patients suck on ice while they are getting the high-dose melphalan infusion because this has been shown to reduce the risk of mouth sores and sore throat that happens after high-dose therapy.

The second phase of transplant begins right after the stem cells are infused. The stem cell infusion is like a blood transfusion. Patients also get premedicated with either an antihistamine, steroids, or acetaminophen. During that second phase of transplant, which usually happens 2 to 3 days after having received the high-dose melphalan, patients universally feel tired and fatigued. Despite this, all transplant centers encourage patients to get out of bed, to keep active, to keep moving. The more a patient stays in bed, the more they get deconditioned. As we often tell patients, the bed is their enemy during the day and it is their friend during the night. The other common side effect is lack of appetite. It is important for stem cell transplantation to stay well hydrated. In the setting of outpatient transplantation, transplant centers usually send patients home with an intravenous infusion. In the setting of an inpatient transplantation, the patients are given constant intravenous fluids to prevent dehydration. The third common side effects are GI side effects or gastrointestinal side effects, nausea, vomiting, and diarrhea. Delayed nausea and vomiting can be prevented with modern antiemetics and with or without dexamethasone. However, the diarrhea also can be controlled often with standard antidiarrheals. It is important that for patients who have diarrhea after high-dose therapy that other causes of diarrhea be ruled out, particularly infectious causes. The fourth common question that I get is, when can patients return back to their normal activities? Even though white count recovers within 10 to 14 days in all patients, that does not mean that their immune system has recovered.

The third phase of transplant, what we call early recovery, is the transition phase. Patients are being discharged from the inpatient setting to the clinic. And once they are there, they begin their fourth phase or early convalescence. At this time, their immune system is equivalent to newborn babies. They are very at high risk for different infections, particularly viral infections. Hand washing of the patients and their family members is paramount. Likewise, avoiding exposure to patients who have upper respiratory tract infections or other contagious diseases is very important to prevent rehospitalization. This period of weakened immune system usually lasts 3 to 6 months for patients are taking other medications to prevent bacterial or fungal infections. After 6 months, most patients have recovered their normal immune system and many of them start getting their revaccinations because we cannot be sure that all the vaccinations or all the immunity that they had as a child has been transferred through the transplant and it is therefore essential that patients get all their baby shots again. Usually after 6 months, patients are back to a normal life. Most patients have actually returned to work at the 3-month mark and on certain occasions, depending obviously on the occupation, patients are returning to their normal work activities within 60 days of transplant.