Multiple myeloma (MM), a neoplastic proliferation of plasma cells originating from the B-cell line, is associated with deleterious complications and poor outcomes. The failure of conventional combination chemotherapies to improve the overall survival of patients with MM has led to the use of high-dose chemotherapy supported by stem cell transplantation (SCT). Although several novel therapies have emerged since the late 1990s, their survival benefits are undetermined. High-dose chemotherapy with SCT provides better response rates compared to conventional chemotherapy and yields a trend toward greater survival benefits, especially with the use of a tandem (two successive) transplantation strategy. This article discusses standard SCT in patients with MM and some of the new transplantation strategies, including tandem autologous SCTs and reduced-intensity nonmyeloablative allogeneic SCT, and their implications for nursing.

**At a Glance**

- Multiple myeloma is associated with deleterious complications and poor outcomes. Patients diagnosed with myeloma tend to be older, with a median age at diagnosis of 66 years.
- Better overall survival has been reported in patients who are aged 60 or younger and treated with tandem autologous stem cell transplantation (SCT).
- Oncology nurses play a key role in ensuring the safety and delivery of high-quality care before, during, and after SCT.