

Stem Cell Transplant Patients Don't Need a Restricted Diet

People who followed a protective diet and those on a standard hospital diet had a similar likelihood of infections.

December 29, 2022 By [Liz Highleyman](#)

People who undergo stem cell transplants for cancer treatment do not need to severely restrict their diet in an effort to prevent infections, according to research presented at the [American Society of Hematology \(ASH\) annual meeting](#).

“A protective diet is an unnecessary burden for our patients because it impairs quality of life without reducing infection incidence,” lead study author Federico Stella, MD, of the Università degli Studi di Milano in Italy, said in an [ASH press release](#). “I think our results can be practice-changing in the context of autologous stem cell transplantation.”

A [stem cell transplant](#) (bone marrow transplant) replaces precursor cells that give rise to all types of blood cells. People undergoing the procedure often receive strong chemotherapy to kill off existing immune cells and make room for the new ones. Depletion of white blood cells, such as neutrophils (resulting in neutropenia), leaves patients susceptible to infections, so they must take precautions to protect themselves.

It has been standard practice to prescribe a protective [neutropenic diet](#) during the first weeks or months after the procedure to reduce the risk of foodborne infections. This involves avoiding foods that could be contaminated and preparing food in ways that kill microbes. Food safety guidelines—such as keeping cold foods cold and hot foods hot—should be strictly followed. Patients are often advised to avoid fast food, salad bars, restaurant meals and potlucks because they can't control the quality of food or its preparation.

A neutropenic, or low-microbial, diet typically excludes unpasteurized or fermented dairy products, raw juices, soft cheeses, raw or lightly cooked meat and seafood, certain shellfish, processed meats that are served cold and fresh fruits and vegetables that are difficult to wash (like sprouts, leafy greens and berries).

“The neutropenic diet generally consists of bland food that's overcooked and bereft of fruits and vegetables. It usually doesn't include a lot of spices. I equate it to offering our patients gruel for

four to six weeks,” Mikkael Sekeres, MD, of the University of Miami Sylvester Comprehensive Cancer Center, who moderated an ASH press briefing about the study, [told STAT](#). He noted that he eliminated the neutropenic diet for his leukemia patients years ago, and he has never seen a patient get seriously sick or die of a foodborne infection.

Stella and his colleagues compared outcomes among recipients of allogeneic (from a donor) or autologous (using a patient’s own cells) stem cell transplants or high-dose induction chemotherapy who were randomly assigned to follow a protective diet or a nonrestricted standard hospital diet. Both diets excluded raw or undercooked meat and fish, but those on the standard diet could have fresh fruits and vegetables, cold cuts, pasteurized honey and yogurt. This was the first randomized trial investigating the role of diet after stem cell transplantation, according to the researchers.

Between July 2016 and March 2022, a total of 234 eligible patients were evenly allocated to the two diet regimens. Just over half were men, and the median age was 57 years. About 40% had lymphomas, and a similar proportion had multiple myeloma. About 20% received an allogeneic transplant, which requires the strongest conditioning chemotherapy and poses a risk of graft-versus-host disease, where the donor immune cells attack the recipient’s body. Participants followed the prescribed diet until their white blood cell count recovered. Follow-up continued for 100 days for allogeneic transplant recipients and 30 days for other patients.

The overall incidence of serious (above Grade 2) infections was similar for people on a protective diet (34%) and those on a nonrestrictive diet (39%); this was also the case for moderate infections. The likelihood of fever of unknown origin, including febrile neutropenia, was similar in the two groups (43% versus 39%, respectively), as was sepsis (11% versus 14%). None of these differences was statistically significant. The length of hospital stays and the need for intravenous nutrition also did not differ between the two groups. Among the allogeneic transplant recipients, the incidence of Grade 2 or higher acute graft-versus-host disease was statistically similar (17% versus 25%, respectively).

But there was a difference in people’s quality of life. According to daily patient diaries, those on a nonrestrictive diet reported higher satisfaction than those on a protective diet, with 35% versus 16% saying their prescribed diet did not have a negative impact. People on the nonrestrictive diet also experienced less weight loss after their transplant.

Click here to read the [study abstract](#).

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