



The Cancer Center at Dignity Health
St. Joseph's Hospital and Medical Center

Cellular Therapy and Stem Cell Transplant Cancer Treatment Built Around You

The Cancer Center at Dignity Health
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Leaders in Cellular Therapy & Stem Cell Transplant

The Cancer Center at Dignity Health St. Joseph's Hospital and Medical Center is excited to announce the launch of our Cellular Therapy and Stem Cell Transplant Program. Our team is comprised of expert physicians with 25 years combined experience treating patients with autologous stem cell transplants. Our compassionate nurses are certified in oncology and specially trained to care for transplant patients. The program features a dedicated transplant coordinator who serves as a guide for each patient, their family and referring physicians through all the stages of the transplant process.

Through our Cellular Therapy and Stem Cell Transplant program, we actively use autologous stem cell transplant treatment solutions for bone marrow cancers, multiple myeloma and other blood diseases. Remission in patients with these conditions can be prolonged with stem cell transplant treatment after standard induction therapy, and can induce a long remission or possibly cure a patient's cancer where standard chemotherapy treatment has failed, potentially saving a life.

Myeloablative chemotherapy – high-dose chemotherapy that kills cells in the bone marrow, including cancer cells. It lowers the number of normal blood-forming cells in the bone marrow, and can cause severe side effects. Myeloablative chemotherapy is usually followed by a bone marrow or stem cell transplant to rebuild the bone marrow.

Refractory cancer – cancer that does not respond to treatment. The cancer may be resistant at the beginning of treatment or it may become resistant during treatment. Also called resistant cancer.

Relapse – the return of a disease or the signs and symptoms of a disease after a period of improvement.

Remission – a decrease in or disappearance of signs and symptoms of cancer. In partial remission, some, but not all, signs and symptoms of cancer have disappeared. In complete remission, all signs and symptoms of cancer have disappeared, although cancer still may be in the body.

Stem cell engraftment – A process in which transplanted stem cells travel through the blood to the bone marrow, where they begin to make new white blood cells, red blood cells, and platelets. It usually happens within 2 to 4 weeks after a stem cell transplant. The transplanted stem cells may come from a donor or from the patient.

Stem cell mobilization – a process in which certain drugs are used to cause the movement of stem cells from the bone marrow into the blood. The stem cells can be collected and stored. They may be used later to replace the bone marrow during a stem cell transplant.

Sources

<https://www.cancer.gov/about-cancer/treatment/types/stem-cell-transplant/stem-cell-fact-sheet>



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Stem Cell Therapy – Frequently Used Terms

It is important to have a good understanding of the terminology used for treatment. Below are some commonly used terms associated with stem cell transplant and treatment.

Apheresis – a procedure in which blood is collected, part of the blood is taken out, and the rest of the blood is returned.

Autologous stem cell transplantation – a procedure in which blood-forming stem cells (cells from which all blood cells develop) are removed, stored, and later given back to the same person.

Bone marrow – the soft, sponge-like tissue in the center of most bones. It produces white blood cells, red blood cells, and platelets.

Conditioning chemotherapy – the treatments used to prepare a patient for stem cell transplantation. It helps make room in the patient’s bone marrow for new blood stem cells to grow, helps prevent the patient’s body from rejecting the transplanted cells, and helps kill any cancer cells that are in the body.

Hematopoietic stem cell – an immature cell that can develop into all types of blood cells, including white blood cells, red blood cells, and platelets. Hematopoietic stem cells are found in the peripheral blood and the bone marrow. Also called blood stem cell.

Induction therapy – the first chemotherapy given for a disease. It is often part of a standard set of treatments, such as surgery followed by chemotherapy and radiation. When used by itself, induction therapy is the one accepted as the best treatment. If it doesn’t cure the disease or it causes severe side effects, other treatment may be added or used instead. Also called first-line therapy, primary therapy, and primary treatment.



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About the Cancer Center at Dignity Health

St. Joseph’s Hospital and Medical Center

At the Cancer Center at Dignity Health St. Joseph’s Hospital and Medical Center, we provide comprehensive, integrated, convenient, and high-quality care for each and every patient. We are experts in medical, hematology, surgical, and radiation oncology. Our multidisciplinary team of physicians are disease-site cancer specialists who are supported by experienced clinical teams providing a wide range of diagnostic, therapeutic, clinical trial services.

“I get excited about how fast-paced the field of cellular therapies has become. The advances are almost occurring on a weekly basis, and that is good for patients. It’s also exciting because we’re not only bringing new therapies to our patients with blood cancers, but these treatments are now being used to treat solid tumor cancers.”

HEMATOLOGIC ONCOLOGIST,
The Cancer Center at Dignity Health St. Joseph’s



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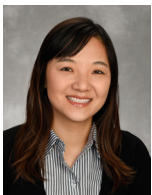
Meet the Team

Physicians



Murali
Kodali, MD

Murali Kodali, MD is a malignant hematologist with the Cancer Center at St. Joseph’s Hospital and Medical Center. He is board certified in Hematology and Medical Oncology. His specialties include malignant hematology, stem cell transplantation (allogeneic and autologous) and cellular therapy.



Soyoung “Sara”
Park, MD

Soyoung “Sara” Park, MD, is a malignant hematologist with the Cancer Center at St. Joseph’s Hospital and Medical Center. Her expertise includes leukemia (acute and chronic), lymphomas, acquired bone marrow disorders, multiple myeloma, and myeloproliferative neoplasms and she is board certified in internal medicine, hematology and oncology.

Before stem cell collection, medication is given to stimulate the release of stem cells from the bone marrow. Patients may experience bone and muscle aches, nausea, headaches, fatigue, and/or difficulty sleeping. These symptoms usually stop within 2 or 3 days after the last dose of medication.

During the collection procedure, patients may experience symptoms such as chills, numbness of the lips, lightheadedness, and cramping in the hands. The cells are collected and sent to a processing lab, where they are frozen and stored until transplant.

Prior to transplant, patients receive high dose chemotherapy. The goal of high dose chemotherapy is to eliminate residual disease. Patients usually have a rest day in between high dose chemotherapy and transplant.

After transplant, patients remain under close observation. Patients may require a hospital stay for a few days. Some patients may require transfusions until bone marrow produces enough marrow on their own.

It is important to note that patients who have undergone bone marrow or stem cell transplant may be at greater risks for infection or other complications, but the benefits outweigh the risks and infections are addressed immediately. We advise all patients to notify their provider immediately if infections occur.

Known Risks

The major risks involved with the transplant is increased risk for infection and bleeding after the high-dose chemotherapy while waiting for the bone marrow to recover normal blood cell production. Antibiotics and blood transfusions may be given during this period to minimize these risks. Short-term side effects during the transplant may include nausea/vomiting, loss of appetite, mouth sores, skin reactions, and hair loss, while long-term risks that may persist after recovery from the transplant may include infertility, cataracts, secondary (new) cancers, and damage to the liver, kidney, lungs, and/or heart.



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What to Expect

Patients can prepare for a transplant simply by getting or staying in the best physical shape feasible. They can also optimize treatment of other medical conditions (high blood pressure, diabetes), by avoiding known toxins such as tobacco products, i.e., cigarettes, vape, and alcohol.

Treatment Types

- **Stem Cell Collection and Infusion**

(Autologous Stem Cell Transplant)

The hematopoietic stem cell collection and infusion are the same for all autologous transplants. What may differ is the kind and number of conditioning chemotherapy agents (high dose chemo).

- **Outpatient Stem Cell Transplant**

Outpatient transplant services are offered on an individual basis after a thorough evaluation of many factors. This allows patients to recover either at home or a nearby residence, such as a hotel for patients traveling from outside the immediate area.

However, patients still need to be seen on a daily basis in the Cancer Center until their transplant has concluded successfully.

What is an Autologous Stem Cell Transplant?

Autologous stem cell transplants allow physicians to use higher than normal doses of chemotherapy in an effort to get cancers that have not responded to regular dose chemotherapy into remission. Unfortunately, high dose chemotherapy is also myeloablative. That is, it irreversibly damages the bone marrow, which left untreated, would result in the patient not being able to make new blood cells to fight infection and stop bleeding. Using the patient's own stem cells though, we are able to "rescue" the patient's bone marrow from the damage of chemotherapy, allowing the patient to recover normal blood cell production after treatment.

Who is a Good Candidate?

A patient who has a blood cancer may be a good candidate for autologous stem cell transplant treatment. Our team of experts use state-of-the-art apheresis technology and infusion facilities for outpatient stem cell collection and administration with no long wait times for treatment or appointment times. To find out if you or your patient is an autologous transplant candidate, call **602.406.8222** and speak with our transplant coordinator.

Conditions Treated

Many cancerous (malignant) and noncancerous (benign) diseases respond well to stem cell transplant therapy, including:

- Hodgkin's and Non Hodgkin's Lymphoma
- Multiple Myeloma
- Testicular Cancer



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What Is the Treatment Process?

Stem cell transplant services, including collection and infusion, will be performed either at the Cancer Center at Dignity Health St. Joseph's in downtown Phoenix, or at St. Joseph's Hospital and Medical Center, depending on a patient's particular situation.

Treatment Phases

Below are different phases to an autologous stem cell transplant, each with its own time frame.

	1-2 weeks	1 week	1-5 days	2-3 hours	14-30days
Phase 1: Pre-transplant evaluation:					
Phase 2: Stem cell mobilization/ collection:					
Phase 3: High dose chemotherapy:					
Phase 4: Stem cell transplant:					
Phase 5: Post-transplant (engraftment) period:					

Pre-Transplant Evaluation phase: Various tests and procedures will be performed to evaluate your overall health and ensure you are prepared to undergo the transplant. Some of these procedures may include blood tests, cardiac and pulmonary function tests, and placement of a central line that will be used during your transplant.

Stem Cell Mobilization/Collection phase: Medications will be given to stimulate the release of stem cells from your bone marrow, and thereafter, you will undergo apheresis to collect the stem cells from your blood. The apheresis procedure is accomplished by pulling blood out of your central line and circulating it through a machine that separates stem cells from the other parts of the blood. The stem cells are collected and stored, while the rest of the blood is returned to your body.

High Dose Chemotherapy phase: Chemotherapy is administered. The infusion procedure is similar to other chemotherapy infusions you have received, but the actual doses are typically higher than standard chemotherapy regimens.

Stem Cell Transplant phase: The day after your High Dose Chemotherapy, you will receive an infusion of the stem cells previously collected and stored during the Stem Cell Mobilization/ Collection phase. This procedure is similar to other IV infusions, but you may notice a few short-term side effects from the preservative used during the stem cell storage process. These side effects may include headache, nausea, and a strange taste or smell while the stem cells are being infused.

Post-Transplant (Engraftment) phase: This is the recovery period after you've received the infusion of stem cells and the cells make their way to your bone marrow and start to multiply to create new, healthy blood cells. Your doctor will monitor you closely during this time. If your transplant is being done as an outpatient, this will mean frequent office visits, blood tests, and visits to the infusion center for supportive treatments as needed.



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