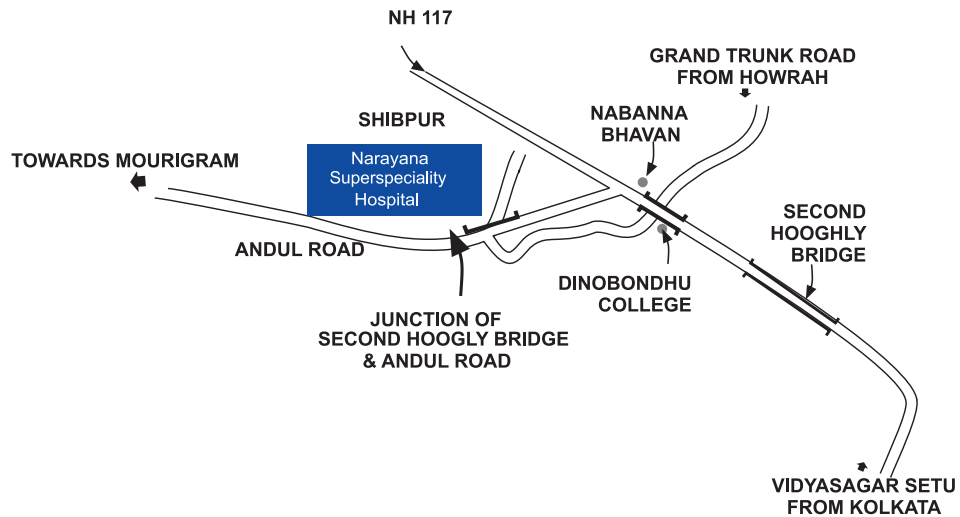


Why Choose NSH for Haematology & Haemato - Oncology?

- Complete care for all blood related disorder & Bone Marrow Transplant, under one roof.
- Specialised Treatment
- Blood Bank
- 24/7 Service

Department of Haematology and Haemato-Oncology



For Queries Call: **8697555567**

Narayana Superspecialty Hospital
Near Nabanna, Howrah | www.narayanahealth.org



About Narayana Health

Narayana Health is headquartered in Bengaluru, India, and operates a national network of hospitals in India with a particularly strong presence in the southern state of Karnataka, Eastern India, as well as an emerging presence in Western and Central India. The first facility was established in Bengaluru in the year 2000 with approximately 225 operational beds and we have since grown to 23 hospitals, 7 heart centers across India and 1 hospital in Cayman Islands.

About Narayana Superspeciality Hospital, Howrah

Narayana Superspeciality Hospital (formerly Westbank Health & Wellness Institute), offers superspeciality services that include Comprehensive Cancer Care as well as Cardiac Sciences, Neuro Sciences, Medical & Surgical Gastroenterology, Orthopedics, Renal Sciences among many others. Treatment is customized for the patients that would aid in better treatment and recovery. The hospital provides round-the-clock emergency services including multi-disciplinary trauma care by senior consultants who are available on-call.

NH Cancer Institute offers Comprehensive Cancer Care facilities, which aim to benefit the people across Eastern region with its high quality Cancer treatment that NH has on offer from here. Its organ specific team of doctors treats Breast, Head & Neck, Blood Cancer, Urological Cancers, GI cancer, Gynae - Oncology, Ortho - Oncology, Lung Cancer and any other form of cancer including Cancer in children. All patients are presented in a multidisciplinary Tumor Board (MDT), which will have experts from Medical Oncology, Surgical Oncology, Radiation Oncology, Haemato-Oncology, Pathology, Radiology, Nuclear Medicine, Pain and Rehabilitation together discussing the best strategy. More to add NH Cancer Institute, Kolkata has initiated a step forward to provide specialist cancer care consultation to the patients with their hub n spoke model through the Narayana Health network hospitals in eastern India and also through their outreach center's at Agartala, Silchar, Siliguri, Dhanbad. NH Cancer Institute was adjudged the **No.1 Cancer Care Hospital in Eastern India by Times of India Health Survey for 2016 & 2017** for it's patient centric approach.

Haematology & Haemato - Oncology

Clinical Haematology is branch of clinical medicine which deals with diagnosis and treatment of blood disorders and blood cancers.

Haematology department at Narayana Superspeciality Hospital Offers wide range of services ranging from outpatient clinic, day care facility, Inpatient ward, Haemato-pathology, blood bank & bone marrow transplant unit under one roof. There are highly qualified doctors which includes a Clinical Haematologist specialised in Haematology, Haemato-Oncology and Bone Marrow Transplantation, leading the clinical services (Adult & Paediatric) along with a Haemato-Pathologist, supporting in Haematopathology services.

We have dedicated Haematology daycare ward which has adequate manpower (Nurses / Doctors) trained to handle chemotherapy drugs & special Haematological procedures on outpatient basis.

In addition we also have advanced blood banking services with platelet aphaeresis, leukodepletion, irradiation facilities etc. - essential for high end complete haematological services.

Facilities and Services

OPD – Morning 9am -9pm (Except Sunday & Holidays)

Daycare Services

- Blood Transfusion in Thalassemia & other Haematological Patients
- Short Chemotherapy
- Line Maintenance
- Bone Marrow Aspiration + Biopsy Procedure

Indoor Patient Facility

- Management of critical Haematological patients like Leukemia, Lymphoma & Multiple Myeloma
- Diagnosis & Treatment of Non Malignant Haematological disorder Eg: Different anemia with complication, Haemophilia & other coagulation disorders Thrombosis & bleeding disorders
- Diagnosis & treatment of all Haematological Malignancies
- Diagnosis & treatment of Aplastic Anemia & other bone marrow failure syndromes
- 24/7 Emergency Services of Blood related problems

Diseases treated under clinical Haematology are:

- Acute Leukemia
- Chronic Leukemia
- Multiple Myeloma & Plasma Cell disorders
- Lymphoma – Hodgkin / Non Hodgkin
- Myeloproliferative Neoplasms
- Thalassemia and other haemoglobinopathies
- All types of bleeding & thrombotic disorders
- Platelet disorders
- Immuno deficiency disorders
- Bone marrow failure syndromes



About Bone Marrow

Bone marrow is the soft and spongy tissue found within bones which is rich in stem cells. The most primitive of these stem cells are the pluripotent stem cells, which are different from the other cells in the following aspects:

- They produce cells identical to themselves - self renewal property
- They have the capacity to produce one or more subsets of mature cells

These stem cells are of prime importance in bone marrow transplants. Other sources of stem cells have gained popularity in the last decade, because their harvesting is better tolerated by patient while delivering almost identical success rates when compared to bone marrow transplants. These include peripheral blood stem cells and cord blood stem cells.

Some conditions which require Bone Marrow Transplant (BMT)

The conditions which necessitate a BMT can be broadly classified into 2 groups:

Cancerous Conditions

- Acute Myeloid and Lymphoblastic Leukemia
- Chronic Myeloid Leukemia
- Chronic Lymphocytic Leukemia
- Hodgkin's and Non-hodgkin's Lymphoma
- Myelodysplastic Syndrome
- Myeloproliferative Neoplasms
- Germ Cell Tumors
- Multiple Myeloma

Non-Cancerous Conditions

- Aplastic Anaemia
- Thalassemia and Sickle Cell Anaemia

- Immunodeficiencies disorders
- Congenital errors of metabolism
- Congenital storage disorders

What Are The Stages of a BMT?

Undergoing a Bone Marrow Transplant is a five-stage process.

- Physical examination – to assess recipient's health status
- Harvesting – the process of obtaining stem cells to be used in the transplant
- Conditioning – preparing the body for transplant
- Transplanting the stem cells
- Recovery period

Physical Examination

Routine diagnostic tests such as complete haemogram, X-ray, and urinalysis are performed.

Also Human Leukocyte Antigen (HLA) typing and blood grouping are done to assess recipient/donor compatibility. This assessment of compatibility is essential to reduce risk of rejection of transplant.

Harvesting the Cells from the Donor

Autologous Bone Marrow Transplant: The donor is the patient himself. Stem cells are taken from the patient either by bone marrow harvest or apheresis

(a process of collecting peripheral blood stem cells), frozen, and then given back to the patient after conditioning therapy. Allogeneic Bone Marrow Transplant: The donor shares the similar HLA type as the patient. Stem cells are taken either by bone marrow harvest or apheresis from a HLA matched donor, usually a brother or sister. Other donors for allogeneic bone marrow transplants may include the following:

- A parent/relative. A haplo-identical match is when the donor is a parent or children and the genetic match is at least half identical to the recipient
- Unrelated bone marrow transplants. The genetically matched marrow or stem cells are from an unrelated donor. Unrelated donors are found through national / international bone marrow registries

Peripheral Blood Stem Cell Transplant:

The process of peripheral blood stem cell transplant is routinely performed when compared to the bone marrow harvest method has this procedure is less invasive and easy to perform. Some studies even suggest that the stem cell yield by this method is higher when

compared to bone marrow harvest. The process takes 4-6 hours after administering necessary medication.

Donors are injected with Granulocyte Colony Stimulating Factor (GCSF) for a duration of 4 days to stimulate stem cell proliferation.

The donor stem cells are collected by a process of apheresis and administered intravenously to the patient. The donor stem cells have the property of stem cell homing whereby they migrate to the patient's bone marrow and override his defective stem cells. This restores the ability of the patient's bone marrow to produce blood elements.

Umbilical Cord Blood Transplant:

Umbilical cord blood is a rich source of stem cells. After delivery or birth of the infant, cord blood can be collected from the umbilical cord (which is a waste, by-product of child birth) and preserved for later use. Cord blood possesses a higher concentration of stem cells than the adult blood. Around 80-100 ml of cord blood is collected and these stem cells are ideally suited for transplants in children. Before storage and preservation, the cord blood stem

cells are typed, counted and tested. Cord blood cells are frozen until necessary for transplant.

Conditioning of the Patient

The conditioning process involves high doses of chemotherapy and sometimes total body radiation. It is carried out for three reasons:

- Destruction of the existing bone marrow cells to make room for the transplanted stem cells
- Destroy any existing cancer cells
- Suppression of activity of the immune system to decrease chances of rejection of donor stem cells

Transplanting the Stem Cells

The process of Bone Marrow Transplant does not involve the physical insertion of the marrow stem cells into the marrow of the recipient, but is more of an intricate and delicate blood transfusion method. The harvested stem cells are administered via a central venous catheter into the bloodstream from where they find their way to the marrow by a property of stem cells known as stem cell homing.

Engraftment: When the transplanted donor stem cells start producing adequate number of matured blood cells. It may take (2-4) weeks time.

Recovery: The patient is constantly monitored to assess the success of the transplant. However, the procedure does involve a few risks, these include:

Graft versus host disease (GvHD)

In this disease, the transplanted stem cells ("graft") attack the recipients cells ("host") as they are considered alien to the body.

There are two types of GvHD:

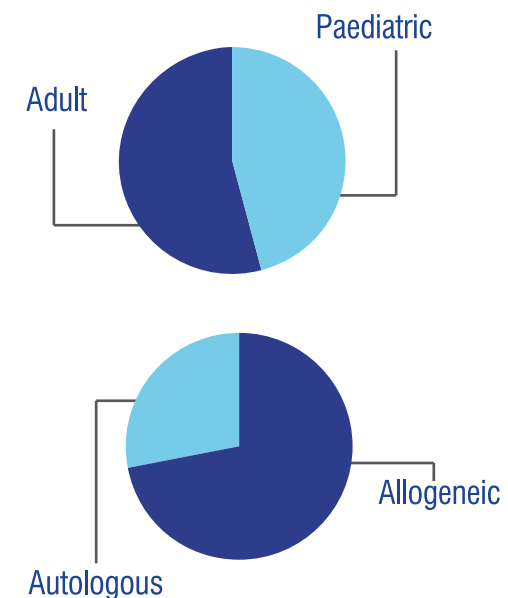
Acute GvHD – Occurs during the first three months following the transplant.

Chronic GvHD – Develops from acute GvHD and can cause symptoms for many years.

Infections

As a consequence of chemotherapy and bone marrow suppression, the body is transiently unable to produce cells to combat infections.

Types of Transplant and Age Group of the Patients



Dr. Sarmila Chandra

MBBS, MD (Internal Medicine)
Consultant Haematology, Haemato – Oncology



With an experience of over 25 years Dr. Sarmila Chandra is the senior most Haematologist & Haemato – Oncologist Physician for both adult and Paediatric. Dr. Chandra graduated from Medical College, Calcutta and has an MD in internal Medicine from AIIMS, New Delhi. Dr. Sarmila Chandra went on for her further training in Haematology & Haemato – Oncology from University of ULM West Germany. Currently Dr. Sarmila Chandra is associated with Narayana Superspeciality Hospital, Howrah.

Dr. Sarmila Chandra deals with cases predominantly involving adult & Paediatric Patients with Haematology and Haemato-Oncology diseases. She has authored numerous research papers that have been published in national & international journals

Areas of Expertise:

- Thalassemia • Leukemia • Lymphoma
- Multiple Myeloma • Aplastic Anemia • Bleeding & Coagulation Disorder

DR. Rajib De

MD, DM (Clinical Haematology)
Specialist Residency in Bone Marrow
Transplantation (TATA Memorial Hospital, Mumbai)
Consultant Haematologist, Haemato- Oncologist &
Bone Marrow Transplant Physician



Dr. Rajib De is a Haematologist, Haemato-Oncologist and Bone Marrow Transplant Physician. He is currently associated with Narayana Superspeciality Hospital, Howrah. Dr. Rajib De obtained the postdoctoral DM superspeciality degree in Clinical Haematology from the Institute of Haematology and Transfusion Medicine at Medical College, Kolkata, in 2010. Then he completed a dedicated training programme in bone marrow transplantation (BMT) at Tata Memorial Hospital, Mumbai in 2012. Till date he performed nearly one hundred BMTs including both autologous and allogenic transplants. He is a member of Indian Stem Cell Transplant Registry (ISCTR) Group. He is principal investigator of research projects & has many publications in national and international journals.

Dr. Rajib De deals with cases involving adult & paediatric patients with Haematology and Haemato-Oncological diseases and patients undergoing Haematopoietic stem cell transplantation.

Areas of Expertise:

- Bone Marrow Transplantation • Thalassemia • Leukemia
- Lymphoma • Multiple Myeloma • Aplastic Anaemia
- Refractory Anaemia • Bleeding & Coagulation Disorder

OUR FACULTY

Dr. Ujal Mani

MBBS, DMRT
Consultant Haematology &
Haemato – Oncology



Dr. Mani, graduated from RG Kar Medical College, Kolkata and did his Post Graduate Diploma in Oncology from SSKM Hospital, IPGMERR, Kolkata. He has worked in the department of Haematology & Haemato – Oncology for more than 15years and is presently associated with Narayana Superspeciality Hospital, Howrah.

Areas of Expertise:

- Thalassemia • Leukemia • Lymphoma
- Multiple Myeloma • Aplastic Anemia • Bleeding & Coagulation Disorder

OUR FACULTY

DR. Basab Bagchi

MD, DM (Clinical Haematology)
Consultant Haematology, Haemato – Oncology &
Bone Marrow Transplant



Dr. Basab Bagchi is a Haematologist, Haemato-Oncologist and Bone Marrow Transplant Physician. He is currently associated with Narayana Superspeciality Hospital, Howrah. Dr. Basab Bagchi obtained graduation from Calcutta University, West Bengal and has an MD in Pathology from Manipal University, Karnataka. He then received DM in Clinical Haematology from West Bengal University of Health Sciences, West Bengal

Areas of Expertise:

- Bone Marrow Transplantation • Thalassemia • Leukemia • Lymphoma
- Multiple Myeloma • Aplastic Anemia • Bleeding & Coagulation Disorder