# neolife

Excellence in Care for a Healthier Future



BOZLU Neolife is a subsidiary of Bozlu Holding



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# We have been adding value to the health of our country since 1990.

Foundations of Bozlu Group were laid after MNT Sağlık Hizmetleri ve Ticaret A.Ş. (Health Services and Trade Inc.) was established in 1990; the Group consists of renowned and respected companies in relevant sectors.

Although the major line of business is oncological diagnostics and treatment, the Group also operates in sectors of industrial testing & manufacturing and construction. Bozlu Group has also investments in art and the Group puts emphasis on compliance with national and international standards and continuous improvement. The high-tech investments that create value aim at sustainable growth in all relevant sectors.

Bozlu Group has gained confidence of stakeholders, as the Group uses state-of-the-art technology to render qualified and human-oriented services quickly.

Bozlu Group not only contributes to healthcare systems of Turkey and other countries, where it carries business, by breaking new grounds, but it also provides benefits to the economy of the country by exporting qualified products.



**Şükrü Bozluolçay, M.D.** Bozlu Holding Chairman of Board



# Our corporate success derives from the value attached to human.

Our corporate structure characterized with determined and qualified persons, who continuously strive to become stronger and more qualified, is our major advantage that makes our companies distinguished.

We, as a team, believe in and focus on proficiency, and we think, plan and take action to be the best at what we do. Responsibility and fair treatment always gain the major share in our corporate structure.

Management of Bozlu Holding believes that "human" is the basis for an institution; while the people comprising the institution are the key to sustainability and quality. We are aware that a sustainable advantage will derive from such strong foundations and understanding that a self-sufficient company is a company with strong moral bonds and firm principles.

We thank all our stakeholders and our clients, who always leveraged us, as well as our managerial personnel, who have worked devotedly while all these steps were taken, and our employees, who not only put their knowledge, but also their hearts to their work.



Our Quality Policy

Neolife Medical Center renders oncology-oriented healthcare services based on the principle of customer satisfaction in line with the international standards. The organization efficiently uses and continuously improves ISO9001-2008 quality management system, respects patient rights and makes all employees adopt the quality targets.

ISO 9001

**BUREAU VERITAS** 



# We are a JCI accredited oncology center.

Medical centers specialized exclusively in efficient and accurate diagnosis and treatments of cancers are required, as occurrence of this group of diseases is ever increasing not only in our country but also around the world.

Neolife Medical Center is a reference oncology facility with state-of-the-art technological equipment and experienced physicians and healthcare professionals, where most up-to-date treatment protocols are applied and patients are provided with physical and social support throughout the treatment.

Advanced early diagnosis methods are carefully blended with the state-of-the-art and integrated treatment methods in our center, resulting in personalized treatment plans.

As cancer follows a unique course in each patient, cancers are diagnosed and treated by physicians, who are specialized in cancer, using advanced medical technologies that are available in Neolife, while patients and families are also offered psychological and social support as well as complementary medicine options.

Neolife conducts comprehensive and in-depth studies on treatment of cancer by devoting all energy and resources to this issue.

### Our Mission

Our mission is to be a healthcare service provider that is oriented to patient satisfaction and that uses high-end technology for diagnosis and treatment of oncologic diseases by a competent team in line with the principle of multidisciplinary approach.

### Our Vision

Our vision is to be a reference facility that renders oncologic services in many medical centers in the country and abroad in strict compliance with national and international quality standards.



Nesrin ASLAN, M.D. Nuclear Medicine Specialist -Chief Doctor



# We take your side in health and in sickness...

Dear Stakeholders,

Neolife family struggles against a disease that concerns the world population and that may develop at any stage of the life; and the science and the scientists are continuously investigating a solution for.

Oncologic diseases are a group of disorders that not only compromise the physical health, but also the mental health. Ever increasingly successful results are obtained in treatment of oncologic diseases with multidisciplinary treatment approaches, technological advances, personalized treatment and smart molecules.

Neolife Medical Center was put into service in late 2010 in order to provide oncology patients with all components of treatments in a boutique environment away from the chaotic atmosphere of a hospital in order to make patients feel somewhat like at home. Our efforts resulted in being a reference oncology center in Turkey and close geography in a short time, and we had also evidenced quality of our service on the international arena as our facility is a medical center with JCI accreditation.

The growth targets are realized with two centers located in two cities of Romania (Neolife Bucharest in 2013, Neolife Iaşi in 2017) based on successful results of the Neolife Istanbul model.

Our major objective is to offer you healthy and disease-free days. To this end, we would like to emphasize the importance of early diagnosing and add that we will stand by you in health and in sickness with our diagnostic and screening tests.

Stay healthy. Best regards,

### **Our Services**

Our success rates are based on individuals rather than percentage.

### **Diagnostic Services**

### ▶ Radiology

- > Tomosynthesis (3D Digital Mammography)
- > MRI (Magnetic Resonance Imaging)
- > Computerized Tomography
- > Doppler Ultrasound (Elastography)
- > X-Ray
- > Interventional Radiology

### Nuclear Medicine

- > PET/CT
- > Gamma Camera (Scintigraphy)

### ▶ Laboratory

### Genetics

- > Cytogenetics
- > Molecular Cytogenetics
- > Molecular Genetics
- > Genetic Predisposition Test

### ▶ Pathology

### **Treatment Services**

### ▶ Medical Oncology

- > Chemotherapy
- > Targeted Therapies
- > Immunotherapy

### ▶ Radiation Oncology

- > TrueBeam™ STX with Novalis® Radiosurgery
- > 3D Conformal Radiotherapy
- > IMRT (Intensity Modulated Radiotherapy)
- > IGRT (Image-guided Radiotherapy)
- > SBRT (Stereotactic Body Radiotherapy)
- RapidArc (Volumetric Intensity Modulated Arc Therapy)
- > SRS (Stereotactic Radiosurgery)
- > Electron Therapy
- > 3D Brachytherapy

### ▶ General Surgery

- Gynecology and Obstetrics
- ▶ Psycho-Oncology





# Diagnostic and Treatment Services

Early and accurate diagnosis is the first step of a successful treatment. We aim to make correct diagnosis based on careful and qualified efforts of Radiology and Nuclear Medicine Departments, Laboratories and Genetics and Pathology Units. Our treatment services are rendered at Medical Oncology and Radiation Oncology departments, along with other outpatient clinics. We come up to global gold standards with the equipment and devices used in these fields.



# Tomosynthesis for accurate diagnosis of breast tumors

Tomosynthesis is a digital mammography method that makes a difference in diagnosis of breast cancer. As images are obtained from various projections and the modality enables cross-sectional imaging, this technology is far more advantageous than conventional digital mammography. Under this method, the diseased body parts are clearly identified as three dimensional images are obtained by combining the thin slices.

# Advantages of Tomosynthesis

- >It increases success rate of early diagnosis, as it enables diagnosis of even very small tumors.
- >Since clear images reduce the necessity of repeated mammograms, the dose of radiation the patient is exposed to is minimized.
- >It prevents unnecessary biopsy and surgical procedures.
- >Location of the tumor is identified three dimensionally.
- >Since less pressure is applied on the breast during the scan, less pain is felt.







### Magnetic Resonance Imaging "MRI"

Magnetic Resonance Imaging is a type of imaging used to examine the anatomical structures and to detect differences between healthy and diseased tissues using magnets and radio waves in a particular magnetic field.

MRI is a radiation-free method and requires no preliminary preparation unless a necessity is present or develops.

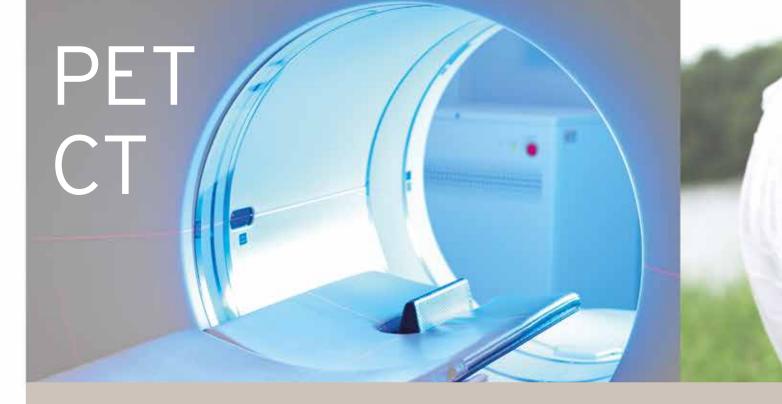
Contrast medium is used or not used depending on the type of scan and the indication.

# Computerized Tomography "CT"

Computerized tomography is a three dimensional radiological diagnostic method that provides cross-sectional images of the intended part of the body using x-rays.







# Gold Standard in Imaging: PET/CT

PET/CT is an integrated imaging device which is the combination of a PET (Positron Emission Tomography) scanner and a CT (Computed Tomography) scanner. PET scan easily identifies cancerous tissues, while CT scan very accurately detects the location of such tissues in the body. PET/CT devices are nowadays used especially in fields of oncology, neurology and cardiology.

### PET/CT;

>Is the first system that combines anatomic (structural) and metabolic imaging >Provides high-quality image with high

> Provides high-quality image with high resolution

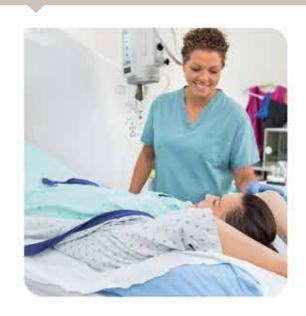
>Requires short time to complete scanning.

> Allows accurate diagnosis of cancerous tissues at an early stage

>Enables early detection of recurrence.

>Is a sensitive method to evaluate response to radiotherapy and chemotherapy.







### F-18 FDG PET/CT;

F-18 FDG is widely used to diagnose and stage many cancers, especially including head and neck tumors, lung cancer, breast cancer, colorectal cancer, liver cancer, ovarian cancer, cervical cancer and uterine cancer as well as malignant melanoma and lymphoma and the modality is also very useful for evaluating response to the treatment

### Ga-68 DOTATATE PET/CT;

Neuroendocrine tumors refer to a group of tumors originating from endocrine glands (adrenal gland, pituitary gland, thyroid gland, parathyroid gland, etc.) or organs that contain endocrine (hormone secreting) islets, such as pancreas, gastrointestinal system and respiratory system.

It is an advanced imaging method used successfully to diagnose and stage neuroendocrine tumors, evaluate response to treatment and to select patients who will probably benefit from radionuclide treatment.

### Ga-68 PSMA PET/CT;

Ga-68 PSMA is a radioactive substance that has known affinity to receptors, referred to as PSMA, on the surface of the prostate cancer cells. Studies demonstrate that Ga-68 PSMA PET/CT is more accurate for visualizing recurrences and metastases of prostate cancer in comparison with other imaging modalities. Ga-68 PSMA is used for diagnosing, staging and re-staging prostate cancers, identifying good candidates of radioactive treatment and evaluating the treatment.



### Radiation Oncology







### Radiotherapy

Radiotherapy uses ionizing beams to treat cancers. This treatment method is also referred to as radiation therapy. Radiotherapy aims to destruct the cancerous tissue, while the healthy tissues around the tumor are conserved.

Radiotherapy can be used alone or in combination with surgery and/or chemotherapy in treatment of cancer. Since results of the treatment are comparable to surgical treatment for some diseases, it is ever increasingly preferred, as the organ is conserved and loss of function is prevented.

Experience of a radiation oncologist and physicist and technical specifications of the device are the most important factors regarding the success rate of the radiotherapy. The linear accelerator used in radiotherapy is directly related with the outcome of the treatment.



### Radiosurgery

Radiosurgery is a modality of radiotherapy that enables non-surgical treatment of benign and malignant tumors. If radiosurgery is used to treat brain lesions, it is also referred to as stereotactic radiotherapy (SRT) or if is used to treat body lesions, it is called stereotactic body radiotherapy (SBRT).

Radiosurgery implies inactivating intracranial and extracranial tumors and lesions that are not appropriate for open surgery by delivering high-dose ionizing radiations to a focused target. Radiosurgery is used when conventional surgery is difficult or not recommended for patients due to proximity of tumor to arteries, nerves or other vital structures. Radiosurgery is usually performed in a single session and effects can be as definite as surgery. Exposure of healthy tissues to radiation is minimized by three dimensional computer-assisted planning and strict immobilization.

### TrueBeam™ STX with Novalis® Radiosurgery

TrueBeam STx with Novalis Radiosurgery is a cutting-edge and latest generation radiation therapy device. TrueBeam STx with Novalis Radiosurgery utilizes many new techniques with its completely restructured control system for imaging, patient positioning, movement management and dynamical synchronization of treatment. TrueBeam STX with Novalis Radiosurgery is designed by Varian, the pioneering company of the world in this field, as a multi-purpose platform and it can be used in all advanced radiotherapy modalities including conventional and 3D conformal radiotherapy as well as image-guided radiotherapy and radiosurgery (IGRT and IGRS), intensity modulated radiotherapy (IMRT), volumetric intensity modulated arc therapy (RapidArc) and stereotactic body radiotherapy (SBRT). Intracranial and extracranial radiosurgery methods are carried out with a precision of lower than 1 mm with this system.

# What are superiorities of TrueBeam STX with Novalis Radiosurgery comparing to other devices used in radiation therapy?

TrueBeam STX with Novalis Radiosurgery gains advantage over other radiotherapy devices, as the device allows concomitant radiotherapy and radiosurgery. Since the dose can be accelerated up to 8 times compared to other linear accelerators, a faster RapidArc can be performed. Considering the difference from all other technologies, higher dose can be delivered in a shorter time, as it can quickly reach high dose velocities, and thus, high-performance treatment is achieved in shorter and fewer sessions. One of the major advantages is the ability of hitting the targeted zone more accurately based on high-resolution images.

# What are indications of TrueBeam™ STX with Novalis® Radiosurgery?

TrueBeam™ STX with Novalis® Radiosurgery can be used in treatment of all cancers that require radiotherapy. However, it is a distinguished modality in treatment of lung, breast, prostate and spinal cancers especially due to synchronized movement management. TrueBeam STX combined with Novalis Radiosurgery also allows "Gated" RapidArc technology which takes the movement of tumor into consideration by synchronizing the dose and the imaging while turning around the patient.



### Advantages of TrueBeam™ STX with Novalis® Radiosurgery:

Treatments are accelerated thanks to the "smart" automation, imaging, positioning and up to 5 folds reduction in treatment stages.

FFF (Flattening Filter Free) mode ing the duration of 2 hours can be therapy at a dose rate up to 2400 MU/min. A conventional IMRT that takes about 15 to 20 minutes under normal circumstances can be completed in a period shorter than 2 minutes.

On the other hand, a complex radiosurgery boosts the comfort that normally takes of patient by shorten about 40 minutes to completed in 5 to 20 minutes. Since higher doses can be delivered in shorter times, a higher performance is achieved.

It gives the tumor less time to move while the dose is delivered and thus, the target is far accurately hit. The precision of the TrueBeam STx with Novalis Radiosurgery is less than a millimeter. This accuracy is provided by the sophisticated architecture of the system, which checks the accuracy every ten milliseconds throughout the treatment and creates a new level of synchronization between imaging, patient positioning, movement management, beam configuration and dose delivery technologies. The system maintains "correct iso-center" or the focus point of treatment by continuously monitoring more than 100.000 data points while treatment progresses. This enhanced accuracy enables doctors to treat the tumor in a moving organ more sensitively.

# TrueBeam STx with Novalis Radiosurgery is superior to other methods, as....

- >It has better targeting rates. Beams hit the target body part more accurately.
- >It is faster: Duration of the session is shortened.
- >Treatment performance is maximized: Number of sessions is decreased.
- Radiotherapy and radiosurgery options are integrated in the same platform in a comfortable environment for the patient.

### Example Cases

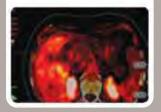
You can see some example cases treated with TrueBeam STX with Novalis Radiosurgery in our center.

### Locally advanced pancreatic cancer

Pre-treatment



Post-treatment



Pre-treatment

Non-small cell lung cancer +

brain metastasis (single fraction radiosurgery)



Post-treatment

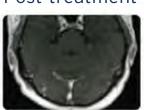


Non-small cell lung cancer + brain metastasis (single fraction radiosurgery)

Pre-treatment



Post-treatment

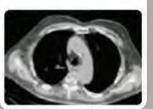


Primary lung cancer (stereotactic ablative radiotherapy)

Pre-treatment



Post-treatment



### Brachytherapy

Radiotherapy procedures can deliver radiation beams from outside of the body (external) or inside the body (internal). In this method, the source of radiation is placed under the skin or in a body cavity or a tissue of the patient. This type of therapy aims at delivering the highest dose to the intended body part, while the damage to nearby tissues is minimized. As the dose moves away from the source, the dose and the effect decrease quickly. Thus, tumor gets the maximum dose, while the healthy tissue around the tumor is exposed to a very low dose. Brachytherapy is an effective treatment especially for gynecologic cancers, but it can also be used for some tumors located in different body parts.



### Orbital lymphoma

Pre-treatment



Post-treatment



Stage IIIA non-small cell lung cancer

Pre-treatment



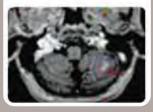
Post-treatment



### Breast cancer + brain metastasis (SRS)

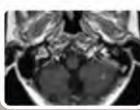


Pre-treatment



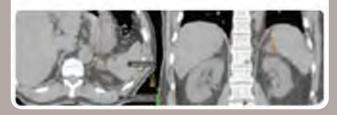


Post-treatment

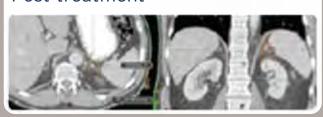


# Non-small cell lung cancer, solitary adrenal metastasis (stereotactic ablative radiotherapy)

#### Pre-treatment



Post-treatment





### Medical Oncology

### Chemotherapy

While lexical meaning of chemotherapy is "treatment with medicines", the term is more frequently used to imply use of anti-cancer medications that destruct cancerous cells.

As an anti-cancer treatment, chemotherapy can be used alone or to create an effect that complements other treatment methods. Aims of chemotherapy may differ depending on the type of cancer;

Curing the cancer

Taking the cancer under control (preventing the spread and slowing down the growth)

Relieving or eliminating symptoms of cancer (pain or similar symptoms)



### Immunotherapy

### What is immunotherapy?

Immune system of our body functions as a controlling system against some substances that it perceives as a 'foreign substance'. Scientists have long been investigating means to strengthen natural defense reactions of the body against cancerous cells. This approach is called immunotherapy when it is used as a treatment method.

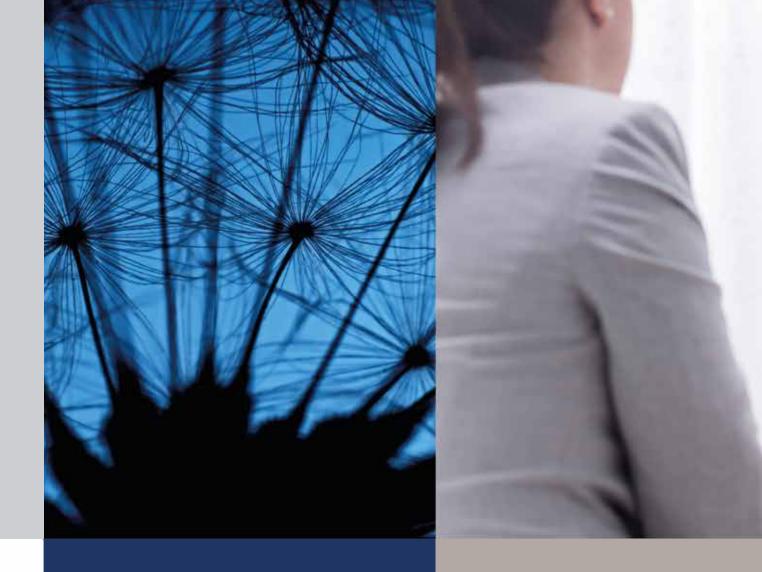
# Which Cancers Does Immunotherapy Help With?

Effects of immunotherapy on cancer have been regarded as extraordinary until recently. However, researchers succeeded in taking some cancers under control with type of interferon, also called alpha. Although conventional chemotherapies were used until several years ago, successful results of immunotherapy have followed each other and studies continue.

Recently, FDA approved immunotherapy drugs for the treatment of malignant melanoma, head and neck tumors, and lung and kidney cancers.

### Advances in Immunotherapy

Our understanding on how the immune system identifies malignant cells - the body cells with potential of malignant transformation - and how it attacks them is ever increasingly improving. This principal field of cancer research may reveal out immunotherapy techniques that can be effective in many types of cancers.



### Targeted Therapies

Cancer genetics and intracellular signal transmission are ever increasingly better understood. We gradually discover how cancerous cells grow and spread and which growth mechanisms are used. Growth and spread of cancer cells can be prevented by blocking intra-cellular signal receptors, superficial receptors and vascularization and hindering the regeneration. Targeted therapies are introduced to standard approaches in treatment of lung, breast, colon, stomach, head and neck and kidney cancers, and novel efficacious therapies are discovered. Lesser side effects and better toleration by patients comparing to chemotherapy are common features of these treatments.

### Multidisciplinary Tumor Councils

In modern medicine, committees are designed to discuss and plan treatment of complex diseases. This method increases the success rate of treatments. Tumors are complex conditions that act uniquely in each patient. Therefore, Multidisciplinary Tumor Councils are assigned, which ensure that attending physicians of all departments work together to make efficacious treatment plans by evaluating general status of the patient in all aspects. The council consists of Medical Oncologists, Radiation Oncologists, General Surgeons, Radiologists, Nuclear Medicine Specialists, Gynecologists and Obstetricians and Pathologists as well as physicians from relevant departments.



### Other services

# What Are the Advantages of Multidisciplinary Tumor Councils?

Discussions held in councils ensure that the disease is addressed in all aspects in finest details and that success rates are maximized, since the most up-to-date literature is shared by all physicians. Thanks to tumor councils, treatments of patients are maintained, while all aspects of the disease are taken into consideration and patients do not need to visit relevant physicians personally.

### How Does Multidisciplinary Tumor Council Work?

Preliminary preparations are made for the patients who will be discussed in the council, and all relevant physicians are invited to the council. Current status of each patient is assessed and the most effective treatment plan is jointly determined by physicians based on view/information exchange, experience sharing and up-to-date information.







### Psycho-Oncologic Counseling

Psychological effects of cancers that are ever increasingly more prevalent should not be neglected. As the treatment is a long-standing procedure and imposes burden, psychological support is one of the most important aspects regarding both the physical and the mental health. Our facility does not ignore the psychological aspect of this disease that negatively affects the psychological and the social life of the patients and thus, patients are provided with psychiatric and psychological support by specialists.

Our facility provides the patients with professional support to cope with conditions that they may face, such as loneliness, difficulty in adaptation, depression, anger, denial, anxiety etc. thanks to our specialist psychiatrists and psychologists at every stage of the psychological erosion (1st stage: making diagnosis, 2nd stage: treatment period, 3rd stage: recurrence, 4th stage: worsening of the disease).





# For Patients, Families and Relatives

Cancer does not only affect the individual with the disease but it also affects the family and relatives. Psychological status of every person with a relative diagnosed with cancer alters and such fluctuations are mostly reflected to the patient. Therefore, relatives of the patients should receive psychological support to cope with the condition. Specialist psychiatrists and psychologists of our facility provide relatives and family members with professional support at all phases, ranging from diagnosis to adaptation that they need.

## Drama therapy and Other Artistic Activities

Drama therapy and professional music broadcast studies are started to create a social networking platform for patients and their relatives and to have them benefit from therapeutic effects of various arts.

In line with the scientific studies that revealed out positive effects of music on mental status of both patients and the employees, instrumental songs hand picked by a professional music consultant are played in our facility throughout the day.

Drama therapy is a therapy method that joins components of drama and theatre for healthy psychological development and conversion. Since it provides an opportunity of expression, it is not only curative, but it also helps knowing himself/herself, increasing self-confidence and boosting imagination, creativity and social skills. Patients and relatives attending to drama therapy sessions organized in our facility find an opportunity to socialize by getting together with individuals having the same problems and hopes about life.

# Psycho-Oncologic Support and Training Groups

In Neolife, we are aware of the fact that one of the most important stages in cancer and coping with cancer is the emotional and psychological status of patients and relatives. Therefore, in the support groups we organize for our patients and relatives, they come together with both relevant specialists and the individuals who have experienced the same disease and are ready to share experiences.

### Local and International Patient Services

Neolife provides the best service and treatment for the international patients who want to satisfy their healthcare needs in Turkey.

International Relations Department with 13 personnel and 5 contact offices provides international patients with the best possible services since December 2010.

Our aim is to make international patients feel at home and we provide their treatments in the best manner.

### Services offered by International Relations team;

- Scheduling appointments, including pre- and post-treatment
- > Assistance with accomodation
- > Interpreting and translation services in 8 languages.
- > Transportation
- > 24/7 support

### Supply of Special Products

Patients may need various special products, such as prosthesis, wig, corset etc. while coping with cancer and resuming their daily life activities. Such products that facilitates life of patients are available at the center.







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