



"Hayatınızı Güzelleştirir"

Oncology  
Center





# Oncology Center

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- In the Private Koru Ankara Hospital Oncology Center, we benefit from all the opportunities of science and technology for the diagnosis and treatment of cancer. We are at your service with our team consisting of Medical Oncologist, Radiation Oncologist, all surgical branches and experienced specialists in other related departments, Oncology nurses, Psychologists and Dieticians. If you believe in yourself and our team, as from the diagnosis it is possible to overcome all the process together more easily
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# Radiation Oncology

Recent advances in radiotherapy device technology and multidisciplinary approach have resulted in great success in cancer treatment.

The lethal effect of radiation on cancer cells has been known for more than a century. However, high treatment success could not be achieved due to side effects in healthy tissues. Thanks to the beam-focus techniques such as IMRT, IGRT, SBRT, it has become possible to eliminate the tumors without damaging the healthy tissues.

## Elekta Versa HD Linear Accelerator

Elekta Versa HD device, which include the most advanced technologies of the world, can perform better tumor contouring with the help of 160-leaf multi-leaf collimator (MLC). The risk of secondary cancers can be maintained at the lowest level while preserving the healthy organs thanks to this collimator structure, which has 5 times less dose infiltration than its nearest competitor.

## Gamma-Knife:

Very successful brain treatments are performed with the Gamma-Knife device, which allows the elimination of the millimetric masses as if taken with a scalpel without opening the skull.

The Gamma-Knife device can create a sharper beam than radiosurgery devices such as Cyberknife and Truebeam, and can reduce the radiation dose to intact brain tissue up to one-sixth, thanks to its superior design with only a few moving parts developed for the treatment of brain lesions. Thus, it ensures that intellectual activities which are critical in the treatment of brain lesions cannot be damaged.

Koru Hospital has become one of the best oncology centres of Turkey with surgical oncologist team, medical oncology department, the device park having the most advanced technology and the radiological oncology department established with contributions of Onko's 25-year of experience.

Gamma Knife is employed for the treatment of pantocerebellar angle tumors, metastases, small or medium meningioma, trigeminal neuralgia movement disorder, in functional neurosurgery domains including Psychosurgery.



Gamma-Knife



Elekta Versa HD Linear Accelerator

# Koru Hospital

## Nuclear Medicine

### 1- Scintigraphy

Any scintigraphic (Planar / Dynamic / Whole Body) and scinti-tomographic (SPECT) scanings are carried out quickly owing to the cutting edge technology, dual-detector gamma camera system (GE NM 630).

### 2- PET/CT

PET/ CT Device, which is the state-of-art in molecular screening with Flor-18 FDG, Ga-68 PSMA and Ga-68 DOTA-TATE screening agents, is at your service with the oncological practices (Cancer diagnosis, cancer staging, restaging, follow-up of treatment response, recurrence questionnaire, radiotherapy planning, identification of appropriate biopsy site etc.), cardiological practices (coronary artery disease, determination of myocardial viability, diseases of myocardium, follow-up of coronary artery bypass patients etc.), in brain and nervous system diseases (dementia, brain cancer, biopsy site identification, brain development disorders, Parkinson's disease, epilepsy, stroke, some genetic transitional diseases, etc.) and in psychiatric diseases (schizophrenia, attention-deficit disorders, hyperkinetic diseases, anxiety, panic disorders, speech disorders, alcohol and drug dependencies, neurotransmitter and receptor disorders, etc.).

### 3- Radionuclide Therapy

Thyroid Cancer and Hyperthyroidism: I-131 Therapy

Neuroendocrine Tumors: Lu-177 DOTA-TATE Therapy

Prostate Cancer: Lu-177 PSMA Therapy

Intra-cavitary Therapies: P-32, Y-90, Re-186

Bone Metastasis Palliation: Sr-89, Re-186, Sm-153, Ra-223

Resistant Non-Hodgkin Lymphoma Zevalin (Rituximab + Y-90)

Y-90 microsphere therapy in Liver Cancer and Liver Metastases



# Koru Hospital

## Bone Marrow Transplantation Center

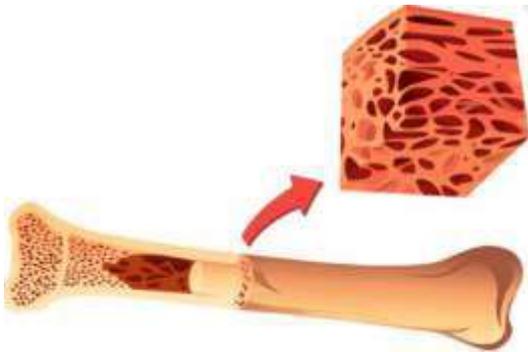
### What is Stem Cell Transplantation?

It is the process of healthy hematopoietic stem cell transplantation to the person, in which the patient's own stem cells are used (autologous transplantation) or the stem cells of another compatible donor are used (allogeneic transplantation), in order to regenerate the bone marrow stem cells which have been damaged / lost due to some benign or malignant diseases. Bone marrow has been the first source of stem cell transplantation because it is rich in stem cells. However, environmental stem cells are preferred these days because they are reliable, fast and less disturbing in terms of both recipient and donor. In recent years, it has been used in the transplantation of stem cells obtained from the umbilical cord.

Before the stem cell transplantation, the bone marrow of the patient is cleared away by chemotherapy and / or drug applications, and then the stem cells from the patient or tissue from the compatible healthy donor are given. After this process, the stem cells settle into the marrow of the recipient, reproduce and begin to produce new blood cells and reconstruct the immune system by producing hematopoietic cells. The patient's blood values start to improve within 2-4 weeks. In the meantime, the patient is followed up closely by his doctor. Especially when the blood values are low (sometimes every day) there is a need for blood support and antibiotic treatment in case of infection. The full recovery of the immune system requires much more time, especially in allogeneic and umbilical cord transplantations, it can extend for up to 1-2 years.

### To whom is the Stem Cell Transplantation Applied?

Stem cell transplantation has been successfully performed in the treatment of some malignant blood diseases (leukemia-blood cancer, lymphoma-lymph node cancer, multiple myeloma-bone marrow cancer, etc.), some bone marrow deficiencies such as aplastic anemia, and congenital blood diseases (thalassemia, etc.).



## How to Obtain Stem Cells and What are the Types of Transplantation?

Cells used for stem cell transplantation are primarily obtained from three sources: bone marrow, peripheral blood, and umbilical cord. The underlying disease of the recipient, the stage and the last state of the disease, urgency, condition of compatibility, donor characteristics and preference are determinative in these cases. Peripheral blood is the most preferred these days.

Autologous stem cell transplantation: Giving his/her own stem cells to the recipient

Allogeneic stem cell transplantation: Giving stem cells from another person fully compatible with the recipient

Haploidentical Stem Cell Transplantation: Giving stem cells from first degree semi-compatible relatives to the recipient

Syngeneic stem cell transplantation: It is the process of giving stem cells taken from the identical twin of the recipient.

## Is full compatibility between receiver and donor required?

Full compatibility (8/8) is sought in the transplantations from another individual if possible. In this case, it is clear that success rates are higher. However, with the development of technology and follow-up methods nowadays, success rate is almost high even with semi-compatible transplantations. For transplantations from the umbilical cord blood, compatibility is acceptable at 6/6, 5/6 or 4/6.

## How to perform stem cell transplantation

In autologous stem cell transplantation, i.e. in cases where the patient's stem cells will be used, the underlying disease should be cured by chemotherapies. Later, using some drugs depending on the stem cell method to be used, stem cells are collected from the patient and frozen until the day of the stem cell transplantation, when they are given to the patient after defrosting. In allogeneic transplantations, the disease is cured by chemotherapies, then using some drugs depending on the stem cell source to be used, stem cells are collected from the donor and given to the recipient. In this way, bone marrow stem cells which are damaged during treatment can be reconstructed and repair itself.

# Koru Hospital

## Bone Marrow Transplantation Center

Koru Health Group, a reference center in healthcare, has recently opened the Bone Marrow Transplantation Center and Hematology inpatient care. In the stem cell transplantation unit, it can serve 8 patients at the same time and 10 patients at hematology service. While the central arrangement was made, we not only paid attention to the Regulation on Bone Marrow transplantation Centres and Bone Marrow Transplantation Tissue Data Processing Centres of the Ministry of Health, but also to the characteristics of having a unit and infrastructure to serve at international level. One of the most important problems in stem cell transplantation patients is infection. This problem is kept at the lowest level with the developed hepa filter system. All services are provided in an isolated area, fully equipped and highly comfortable rooms.

Our aim is to make the process as comfortable and peaceful as possible, which will be materially and morally challenging. Our center is composed of

**Bone marrow transplant outpatient clinic**

**Bone marrow transplant clinic**

**Apheresis unit**

**Isolation and storage of stem cell**

**Blood Transfusion Center**

**Hematology Unit inpatient care and outpatient clinic.**

Private Ankara Koru Hospital Stem cell transplantation center is available to admit international and domestic patients with highly experienced doctors, nurses, auxiliary medical personnel, psychological support group and the support of interpreters in any language. Our hospital provides transport and accommodation services especially for the patients and their relatives coming from abroad. Patients who are candidates for stem cell transplantation are evaluated by our M.D. Specialists in their domains, undergoing extensive testing and, if appropriate, admitted to the unit for transplantation. All units of our hospital have agreement with SSI.

### **Bone Marrow Transplantation Center**

successfully carries out the treatments of Lymphoma, Multiple myeloma, Acute Leukemias (much less chronic leukemia), aplastic anemia and other bone marrow deficiencies, hemoglobinopathies, myelodysplastic and chronic myeloproliferative diseases with stem cell transplantation.



# Surgical Oncology

Surgery is still one of the most important treatment modalities in the treatment of cancer. Surgical oncology, which is involved in the surgical treatment of the cancerous area, is carried out by our experienced physicians in their domains of all surgical disciplines as well as general surgery in our hospital as laparoscopic and robotic surgery called minimally invasive with developing technology. One of the most important differences of surgical oncology from other surgical disciplines is that it requires a multidisciplinary approach. In line with these principles, we offer individual treatment modalities for patients we will cure and treat with multidisciplinary patient evaluation meetings and share them individually with each patient.

The laparoscopic and robotic surgery, which we call minimally invasive surgery and which has been widely used recently, provides gains in terms of cosmetics, hospital stay duration, and the early return to work following surgery of the patient, but also allows the patient to overcome this period the most quickly and in the shortest of time. One of the most important points of surgical oncology is the provision of this treatment with multidisciplinary approach.

The main case, which is tried to be explained with multidisciplinary approach, is to emphasize that this process may require additional treatment as distinct from the other diseases before and after the surgery and that these treatments can be fully performed in the presence of other disciplines except surgeons.

In the general surgery department of our hospital, the treatments of thyroid, parathyroid, breast, oesophagus, stomach, small and large intestine, liver, anal region and pancreatic cancers are individually planned with multidisciplinary approach.

The radioactive iodine therapy, which will be planned by the department of nuclear medicine if required after thyroid cancer, the planning of radiotherapy in the rectum, oesophagus and breast cancers by radiation oncology are only a few examples for multidisciplinary approach. Apart from these therapies, the patient sometimes should also receive chemotherapy and / or radiotherapy before surgery. Here the aim is to reduce the size of the cancer before surgery and make it more suitable for surgery and to provide more successful results.



Surgery is mostly the first-line treatment of cancer. Surgeries sometimes require multiple departments to contribute. This case and radiotherapy and medical treatments (chemotherapy-radiotherapy) that the patient will receive before and after the surgery are decided by pre-surgery multidisciplinary meetings, this information is explained and shared comprehensively with the patient and their relatives.

The pain palliation (treatment-removal) of the patients after the surgery and the pain treatments of cancer patients in some cases are performed successfully by the algology (the science of pain) which is a discipline of the anaesthesiology-reanimation department within our hospital, pain control of patients is carried out successfully both during and after the surgery.

Another issue is nutrition in patients with cancer, which is managed and administered successfully by the diet-nutrition team in our hospital, both before and after the surgery.

Hospital, surgical oncological operations are performed by our experienced physicians in line with the principles of multidisciplinary surgical oncology in not only general surgery but also in many surgical disciplines such as gynecology and obstetrics, urology, neurosurgery, orthopedics, otorhinolaryngology.

# Surgical Oncology

# Medical Oncology

Oncology is an ancient Greek word formed by the combination of 'oncos' (swelling) and 'logos' (science), meaning science of tumor. Oncology has covered the diagnosis and treatment of tumors and all developments in this field. Since cancer is the second most common cause of death after cardiovascular diseases, Oncology has become an important science today.

The discipline that deals with the medical treatment of cancer (chemotherapy) is called Medical Oncology. Physicians working in this field (Medical Oncologists) are internal medicine specialists specializing in cancer treatment. Diagnosis and treatment of cancer is a process that requires multiple departments to work in teams at the same time. This team should include specialists in Surgery, Pathology, Radiation Oncology, Radiology, Medical Oncology and other relevant departments. The coordination of this team, which carries out cancer treatment, is generally provided by Medical Oncology specialists.

In our Medical Oncology Clinic, treatment of cancer patients is planned, scheduled treatments (chemotherapies) are implemented and complications (side effects) due to chemotherapy are also treated. Throughout this process, the patients and their relatives are informed about the state of the disease and are included in this process. These services are performed in our chemotherapy unit and, if necessary, in inpatient care. The lifetime follow-up of patients who have completed their treatment is also carried out by our department.



# Chemotherapy

Chemotherapy is the treatment of cancer with medication and it is a crucial part of the treatment together with radiotherapy. Depending on the type, stage and characteristics of the cancer, chemotherapy may be carried out for various reasons:

To eliminate cancer cells and to treat the patient (cure),

To prevent the metastasis or recurrence of cancer,

To stop or slow down the growth of cancer, to eliminate the symptoms caused by cancer.

The chemotherapy agent to be used is determined by the Medical Oncologist depending on the type, prevalence of the tumor age, and age, general condition and other diseases of the patient.

Chemotherapeutic drugs are usually given in three ways:

1. Oral tablet
2. Intramuscular or subcutaneous injection
3. Intravenous push or infusion

Direct injection into some organs and tissues by various methods.

Doses and frequency of administration are also determined by different factors and the condition of the patient at follow-up. Treatment should be performed at effective doses but by protecting the patient from side effects.

Chemotherapy should be implemented in the centres where trained people work.

Some of the agents used are chemotherapy drugs, hormones and biological agents that directly affect the tumor; some of them are used to increase the effect of drugs directly affecting the tumor or to control side effects.

The scheduled daily treatments (intravenous and oral chemotherapies; supportive care for the symptom) in our chemotherapy unit are applied to our patients in a peaceful environment accompanied by experienced personnel.

Cancer takes its destructive power from individual's own thinking, that is, it can achieve to shoot him/her with his/her own thought regardless of the need for other weapons. Diagnosis of cancer can cause severe psychological destruction in the individual and his/her environment, and incorrect approaches increase this destruction.

The duty of the psychologist in the Private Koru Hospital Oncology Center is to inform the patients and their relatives about the treatment process, to reduce anxiety, to help them to express their feelings, to increase their willingness to struggle and survive, and to strengthen social support.

Psychological support allows patients and their relatives to use all of their energies to heal, and in this way, very positive developments are obtained in their treatment.

# Psychological support

## Types of Treated Cancer

- Breast cancer**
- Stomach-intestine cancers**
- Pancreatic Cancer**
- Prostate cancer**
- Kidney-Bladder Cancers**
- Lung cancers**
- Head and neck cancer**
- Liver cancers**
- Gallbladder and bile duct cancers**
- Malignant mesenchymal tumors**
- Brain tumors**
- Melanoma and other skin cancers**
- Thyroid cancer**
- Testicular cancer**
- Ovarian cancer**
- Uterine (endometrium) and cervical (cervix) cancers**
- Lymphomas**



# Healthy Nutrition

Whatever the cause of cancer is, the strength and health of the body play an important role in the fight against cancer. Healthy nutrition is very important in regeneration of damaged cells, in struggle with side effects and in provision of weight control.

Therefore, dieticians should regularly evaluate the nutritional status of the patient.

In the Koru Hospital Oncology Center, dieticians regularly evaluate the patient's nutrition, determine their needs and offer special nutritional advice.

## Treatment of Pain

In the Algology department of our hospital, cancer-related pain is treated together with other chronic pain reasons. A wide range of invasive treatment options, including epidural injections, nerve block, radiofrequency ablation, spinal cord stimulation, and spinal port / pump systems, are successfully implemented. A customized treatment schedule is created for each patient.





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