



19 DEPARTMENTS EQUIPPED WITH CUTTING-EDGE TECHNOLOGY AND STAFFED BY HIGHLY EXPERIENCED PERSONNEL

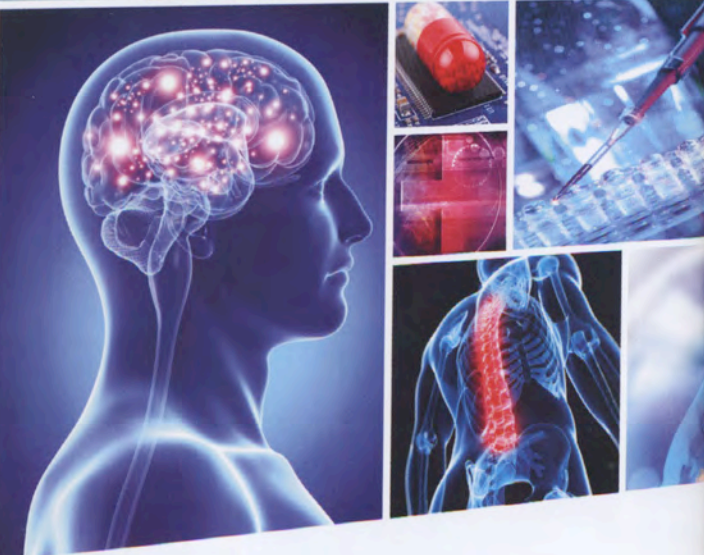
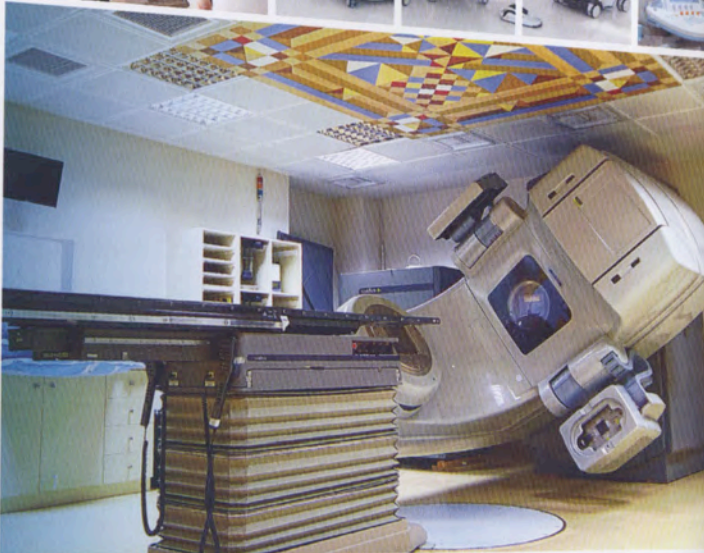
**INNOVATOR  
IN THE LATEST MEDICAL  
DEVELOPMENTS  
STANDING BY PEOPLE**

DOING OUR  
BEST FOR  
YOUR HEALTH



## **20 REASONS WHY WE ARE AT THE TOP**

- 1.** TEMOS
- 2.** Deep Brain Stimulation (DBS) • Brain Pacemaker
- 3.** Head & Neck Surgery
- 4.** Epilepsy • Treatment using invasive neurosurgical methods
- 5.** Breast and Women's Center
- 6.** Da Vinci • Urology
- 7.** Cerebrovascular Accident High Dependency Unit (HDU)
- 8.** Thyroid Center
- 9.** O-arm
- 10.** Orthopedics
- 11.** Upper Limb Microsurgery
- 12.** Knee & Hip Robotic Surgery
- 13.** Oncology
- 14.** Neuroradiology & Advanced Oncologic MRI
- 15.** Microsurgical Oncology
- 16.** Radiation Oncology
- 17.** Interventional Cardiology
- 18.** Interventional Radiology
- 19.** Gastroenterology Clinic
- 20.** Leading Ophthalmology Clinic





# THE VISION

Metropolitan Hospital is considered one of the best hospitals in Europe. With state-of-the-art facilities, advanced technology, and highly trained medical, scientific and nursing staff, it has demonstrated major success in medical research, and has implemented innovative medical techniques for diagnosis and treatment, meeting all patient needs.





The vision of Metropolitan Hospital's founders was to establish an **innovative hospital**, directly linked to people and life, with the fundamental aim to offer top quality healthcare services, not as a luxury, but as the **essential need and right of every patient**.



Metropolitan Hospital covers **all medical specialties** and has all the necessary **diagnostic labs**, ensuring well-rounded hospitalization, medical, scientific and nursing services.



**35.000**  
patients annually  
for hospitalization  
and treatments.



**300**  
hospital beds,  
as well as private  
ambulances.



A **helipad** is located just 500 meters away, while the Hospital works with a patient air transfer company.

patients visit the Outpatient  
Clinic and the Emergency  
Department annually.

Over **150.000**



Following strict quality control procedures, Metropolitan's distinguished doctors have a proven scientific track record and extensive experience. They also continue their medical education in Greece and abroad, so as to be able to apply all the latest scientific innovations in practice.



The facilities have been designed to combine functionality with high aesthetics, **ensuring all the contemporary amenities.**



All the rooms, from 4-bed rooms to suites, have a **sea view** and offer **personal TV**, access to satellite channels, fax and computer.

Patients **have a choice of meals** depending on their nutritional preferences and habits. The medical infrastructure and the **comfortable and functional accommodation** options render its hospitalization conditions unique in Greece.

Metropolitan Hospital covers an area of

50.000 sqm.



It employs approximately

1.500 specialist doctors



and 800 trained nurses and auxiliary staff.



**The state-of-the-art IT system** offers the possibility of interactive online communication, which ensures that doctors have **immediate access** to a patient's medical file, even remotely.



Metropolitan Hospital has established **partnerships** with leading foreign hospitals and scientific institutes and actively participates in every new research project. The partnerships with leading European and US centers and institutes offer the option of **online connection** and communication with **medical and scientific hubs**, where doctors can exchange views and advice, offering **the most advanced medical and scientific support** to their patients.





## Excellence in Medical Tourism

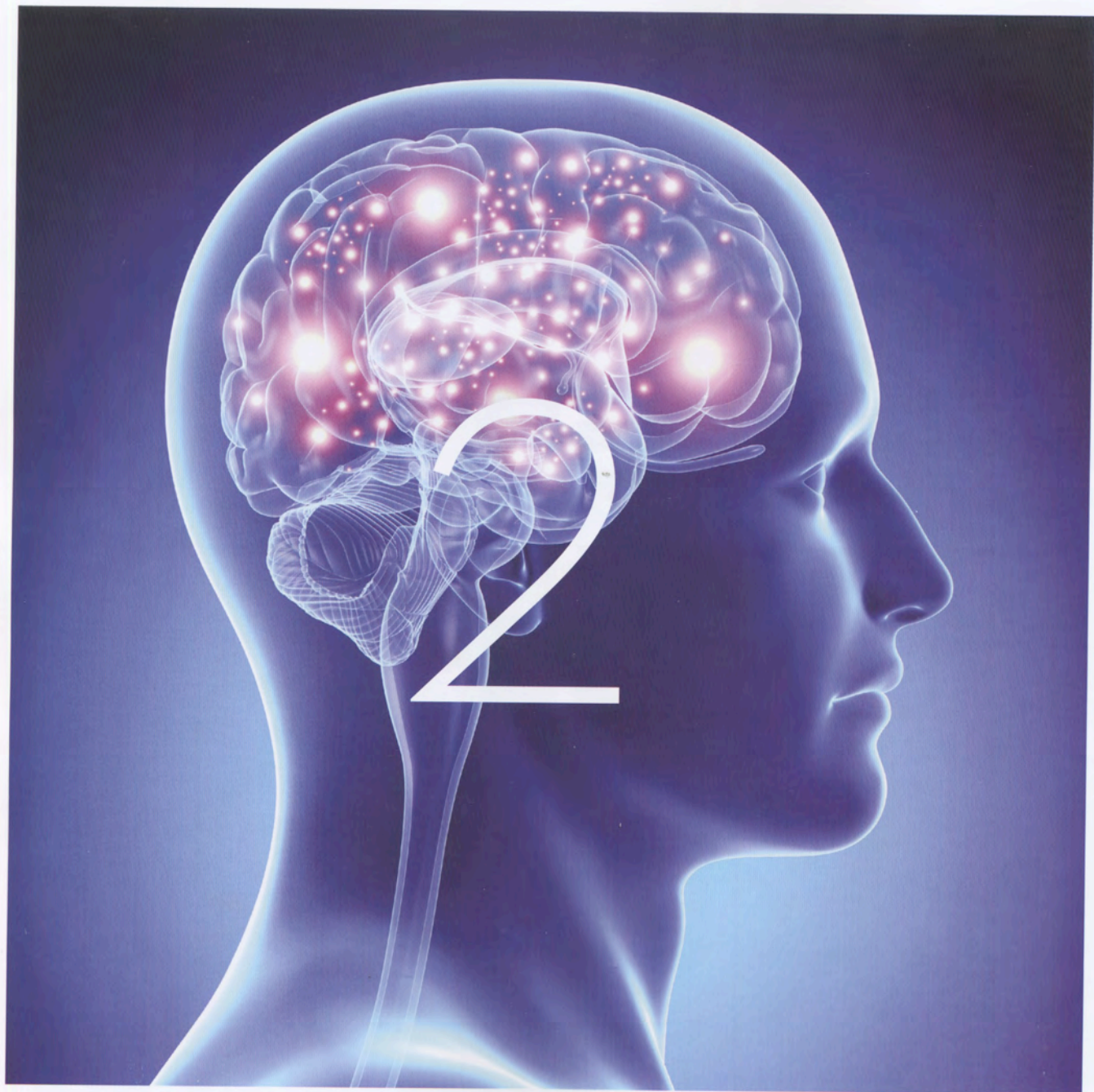
## TEMOS

Metropolitan Hospital, an innovator in medical developments, has received yet another distinction. It became the first hospital in Greece and the fourth worldwide to be certified for its EXCELLENCE IN MEDICAL TOURISM by TEMOS INTERNATIONAL.

This new international distinction corroborates the trust that patients from Greece as well as 81 countries worldwide have shown in Metropolitan's doctors and services.







## Deep Brain Stimulation (DBS) Brain pacemaker

Deep Brain Stimulation (DBS) is one of the most advanced treatments that medical science currently has to offer. It was initially developed to treat advanced forms of Parkinson's disease, doing so successfully. The method was subsequently successfully used for dystonia, a neurological disorder marked by involuntary movements and sustained muscular contractions, for essential tremor and for multiple sclerosis tremor. The first positive results in the treatment of depression, compulsive disorders, drug-resistant headaches, epilepsy and anorexia started becoming evident over the last five years.

Acting as a brain pacemaker, DBS uses advanced electrodes which are placed in the brain permanently so as to send imperceptible electrical impulses to different parts of the brain, depending on the condition each time. The electrodes are connected to a smart microchip under the skin, which undertakes to send the suitable sequence of electrical impulses so as to stop the affected brain signals that cause Parkinson's symptoms, tremor or pain. This treatment does not destroy brain tissue and can be controlled wirelessly by the patient or the doctor.

More than 80,000 patients have benefited from this treatment worldwide. The main reason it is not as widespread in Greece is because the procedure requires a highly specialized multi-disciplinary team of neurosurgeons, neurology specialists, psychologists and radiologists with extensive experience, as well as advanced equipment, guaranteeing patient safety and the best possible results. Metropolitan Hospital's entire functional neurosurgery team is available to offer advice and guide you towards better quality of life.

## Head & Neck Surgery

The activities of the Head & Neck Surgery Clinic cover the entire range of medical exams and surgical procedures, ensuring comprehensive treatment of related conditions.

### They include:

- head and neck oncologic surgery in patients with tongue, mouth, jaw and neck cancer. The comprehensive treatment of these patients includes safe surgical tumor removal and restoration of the form and function of the mouth, face and neck using modern medical techniques. Postoperatively, the majority of patients return to their normal professional and social activities without any major problems.
- salivary gland surgery, as required for the treatment of tumors, inflammations or stones in the parotid, submandibular or minor salivary glands.
- sinus surgery, as required for the treatment of inflammations and tumors located in that area.
- viscerocranium (facial skeleton) surgery for fractures or orthognathic surgery in patients with face asymmetry.
- oral cavity surgery for patients with small intraoral tumors or inflammatory conditions of the mouth.
- pharmaceutical and post-radiation treatment of osteoradionecrosis of the mandible.



Служба безопасности МВД России

АДМ : код # 3448  
АТО : код # 7837  
ИВВ : код # 9832  
ЗНТ : код # 1138  
МБК : код # 8398  
**000 : код # 1111**  
НАИ : код # 3283  
АДО : код # 4449  
АЕР : код # 9594  
МНА : код # 4838  
ВВФ : код # 4949  
ВВЕ : код # 9598

20893049562  
3894568236  
2304592364  
5623646544  
7369874697  
45683264568  
5078364538  
4656803245  
4567098234  
6809238560  
6823084856  
8069238045  
5623468560  
0648506923  
0239453049  
5682384506  
6230848506  
0452680345  
3465096804  
5623456234  
2365674236  
8574874834

Итого: 100 шт.  
Глобал: (01/01)



4

## Breast and Women's center

### Created to meet the needs of contemporary women

The new Breast and Women's center was created to meet the needs of contemporary women. The Breast Center is staffed by a large team of specialists, ready to offer solutions to anything relating to breast health. It is located on the 7th floor of Metropolitan Hospital, in a specially designed luxurious area, welcoming women who wish to undergo medical exams and screenings for the prevention and treatment of all breast conditions.

Two different yet interdependent departments operate within the fully equipped Center, in constant and direct communication with each other:

#### ● Breast Imaging & Diagnosis Department ● Breast Surgery Clinic

##### Imaging Department Services:

- Tomosynthesis ● Elastography ● High-definition U/S ● Breast MRI
- Stereotactic biopsy ● Guided hook wire lesion localization

##### Breast Surgery Clinic Services:

- Fine-needle aspiration (FNA) ● Core biopsy
- Oncotomy combined with oncoplastic surgery
- Sentinel lymph node biopsy
- Subcutaneous mastectomy with or without nipple- and areola-sparing
- Immediate plastic reconstructive surgery, with autologous tissue or with expanders and implants

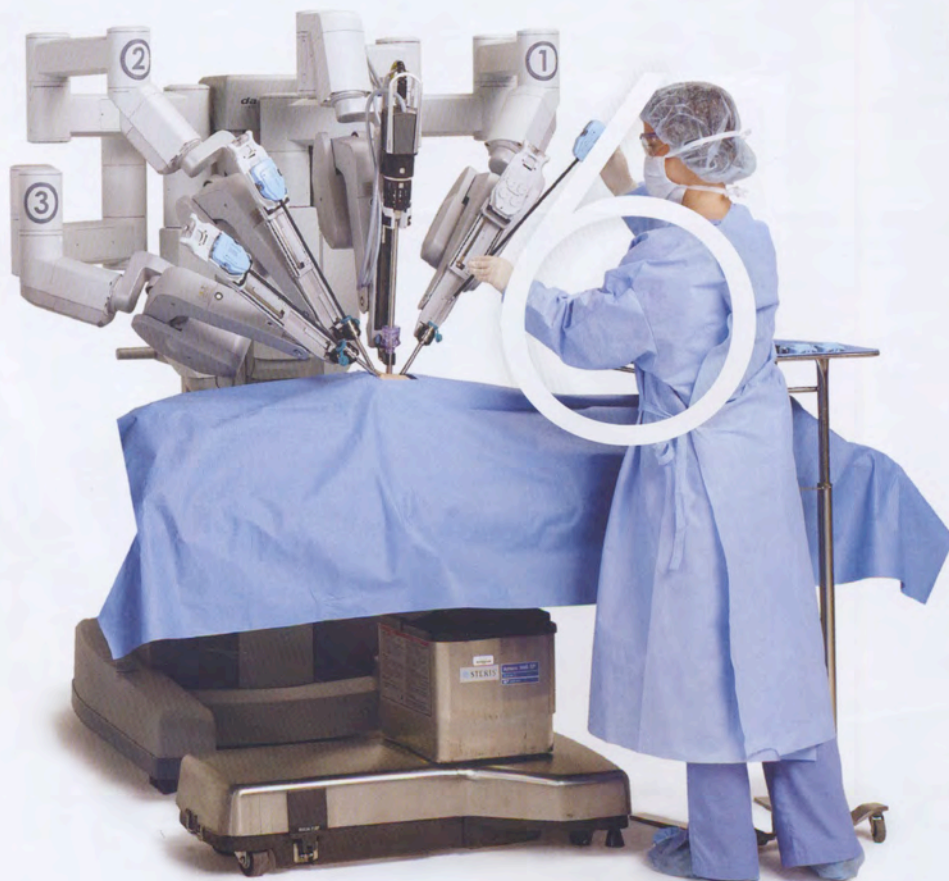
**A gynecological oncology unit also operates within the Center**, which was initially established to assist in the prevention and treatment of conditions affecting the external and internal genitalia. Working in a modern facility and assisted by the latest technology, the doctors are able to diagnose benign or malignant conditions and offer cures.

The following procedures can be performed in the fully equipped operating rooms:

- Conization using loop or laser
- Cervical ablation using laser
- Hysteroscopy
- Interventional hysteroscopy
- Diagnostic/interventional laparoscopy
- Laparoscopic salpingoplasty
- Laparoscopic removal of fibromyomas and uterine suturing
- Laparoscopic oophorectomy/ovarian cystectomy
- Laparoscopic collection of ovarian tissue for cryopreservation
- Laparoscopic sacrocervicopexy for uterine prolapse or vaginal vault
- Laparoscopic uterectomy
- Vaginal restoration of vaginal wall laxity
- Laparoscopic radical hysterectomy
- Laparoscopic staging of cervical/uterine cancer







## Da Vinci Robotic Surgery

Nowadays, over 85% of prostate cancer procedures in the USA are performed robotically. Being at the forefront of innovations, Metropolitan Hospital is not only equipped with the latest state-of-the-art da Vinci system, the da Vinci Si, but also has one of the most experienced and specialized teams of Greek robotic surgeons, who perform the largest number of procedures in Europe annually.

### **Robotic Surgery Benefits in Urology**

- Greater surgical precision
- High-definition 3D images
- Elimination of hand tremor
- Access to hard-to-reach areas from multiple sides
- Reduced blood loss
- Elimination of large surgical incisions for better aesthetic results
- Minimal risk of infection
- Short hospitalization
- Faster recovery and return to normal activities

### **Robotic Surgery Applications in Urology**

Urology has been the main field of application for robotic surgery worldwide. Due to the unique benefits they offer, robotic surgery applications in Urology have been expanding continuously.

### **Robotic urological procedures include:**

- Neuroprotective radical prostatectomy for prostate cancer
- Simple transcystic prostatectomy for large benign prostatic hyperplasia
- Removal of large kidney cysts
- Partial nephrectomy for small tumors (<4 cm), sparing the rest of the healthy kidney
- Radical nephrectomy or nephroureterectomy
- Extensive lymph node dissection
- Pyeloplasty
- Radical cystectomy with formation of a neocyst from the small intestine in invasive urinary bladder cancer in men and women
- Repair of bilateral or recurrent varicocele
- Treatment of vesicovaginal fistulas following gynecological procedures
- Repair of genital prolapse or incontinence in women
- Transplantation of ureter in the urinary bladder for ureteral stenosis

## **Cerebrovascular Accident High Dependency Unit (HDU)** The latest technology for diagnosis, hospitalization, treatment and rehabilitation of stroke patients

Cerebrovascular Accidents (CVA) are the third leading cause of death in the western world. The prognosis for patients suffering from CVA differs widely, depending on the severity of the stroke, the patient's hospital arrival time, the special treatment performed and the complications that may appear in other vulnerable organs.

With regard to CVA severity, it may be manifested with mild transient symptoms, such as numbness, limb weakness, difficulty speaking, vision impairment, etc. These must be recognized on time to avoid a more severe imminent stroke.

The patient's hospital arrival time following a CVA is extremely important because certain contemporary medical interventions can only be performed under specific conditions and only within 4 hours from the time the symptoms commence.

The complications that may aggravate the condition of patients suffering from CVA mainly relate to the cardiovascular and respiratory system, as well as to existing conditions. By constantly recording and monitoring all of a patient's systemic functions, it is possible to intervene immediately, which could eventually save the life of the patient.

It has been proven internationally that hospitalization of CVA patients in the HDU significantly reduces the chance of disability and morbidity compared to patients who are hospitalized in conventional hospital wards.

A Cerebrovascular Accident High Dependency Unit (HDU) operates within Metropolitan Hospital 24/7. It's a first for Greece, while the Unit is in line with all the international standards and it's equipped with all the latest technology required for diagnosis, hospitalization, treatment and rehabilitation of stroke patients. The Unit is staffed by doctors from all related medical specialties and has become an innovator in emergency medical treatment.





## Thyroid Center

### Over 5,000 thyroid and parathyroid gland procedures

The year 2014 marked the 10-year anniversary of the Thyroid & Endocrine Surgery Clinic at Metropolitan Hospital. Over 5,000 thyroid and parathyroid gland procedures have been performed at the Clinic during this decade. In partnership with the Hospital Endocrinologists, the Clinic identifies any thyroid or parathyroid condition.

#### **The check-up includes:**

- Physical examination of the patient
- Blood tests (hormonal profile of thyroid or parathyroid function)
- Imaging tests
- Cervical U/S for imaging of the thyroid, parathyroid and lymph nodes in the area
- Cervical CT, wherever required (extensive thyroid cancer, descending goiter)
- Cervical MRI, wherever required
- Thyroid or parathyroid scintigraphy
- Fine-needle aspiration of thyroid or lymph node nodules

#### **The surgical procedures performed at the Clinic include:**

- Thyroid-related surgeries
- Total thyroidectomy for benign or malignant thyroid conditions
- Lymph node dissection (central, modified or radical neck dissection), wherever indicated for thyroid cancer
- Revision surgery for recurrent benign or malignant thyroid conditions
- Parathyroid-related surgeries
- Parathyroidectomy and neck exploration for hyperparathyroidism
- Revision surgery for recurrent hyperparathyroidism

## **O-Arm** A milestone in surgical imaging

The world of surgery is changing with this new innovative intraoperative imaging system, which has successfully started being implemented in Greece.

O-arm is a fully portable CT system and a multi-dimensional platform which constitutes a milestone in surgical imaging. Combined with a surgical navigation system, it is the only device that can offer surgeons 100% accuracy for detecting and managing even the most sensitive lesions.

The extreme accuracy of this system allows performing surgical procedures even in the most anatomically dangerous areas, limiting the risk of medical errors.

### **The main O-arm applications in Neurosurgery include:**

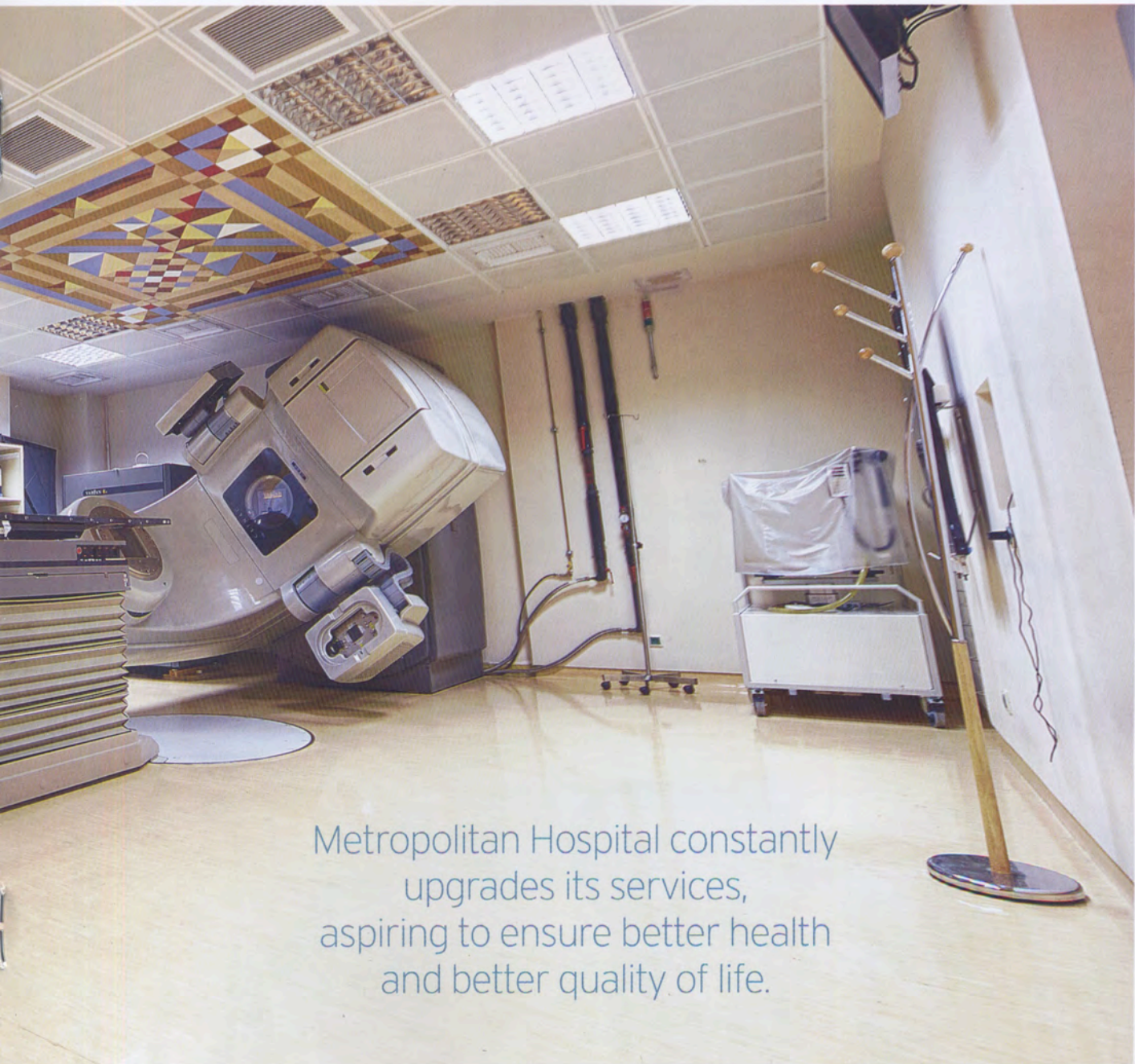
- Removal of brain and spinal cord tumors (selection of craniotomy and surgical approach/access, detection and localization of tumor)
- Biopsy and catheter placement
- Functional neurosurgery (electrode placement for Deep Brain Stimulation)

### **The O-arm benefits include:**

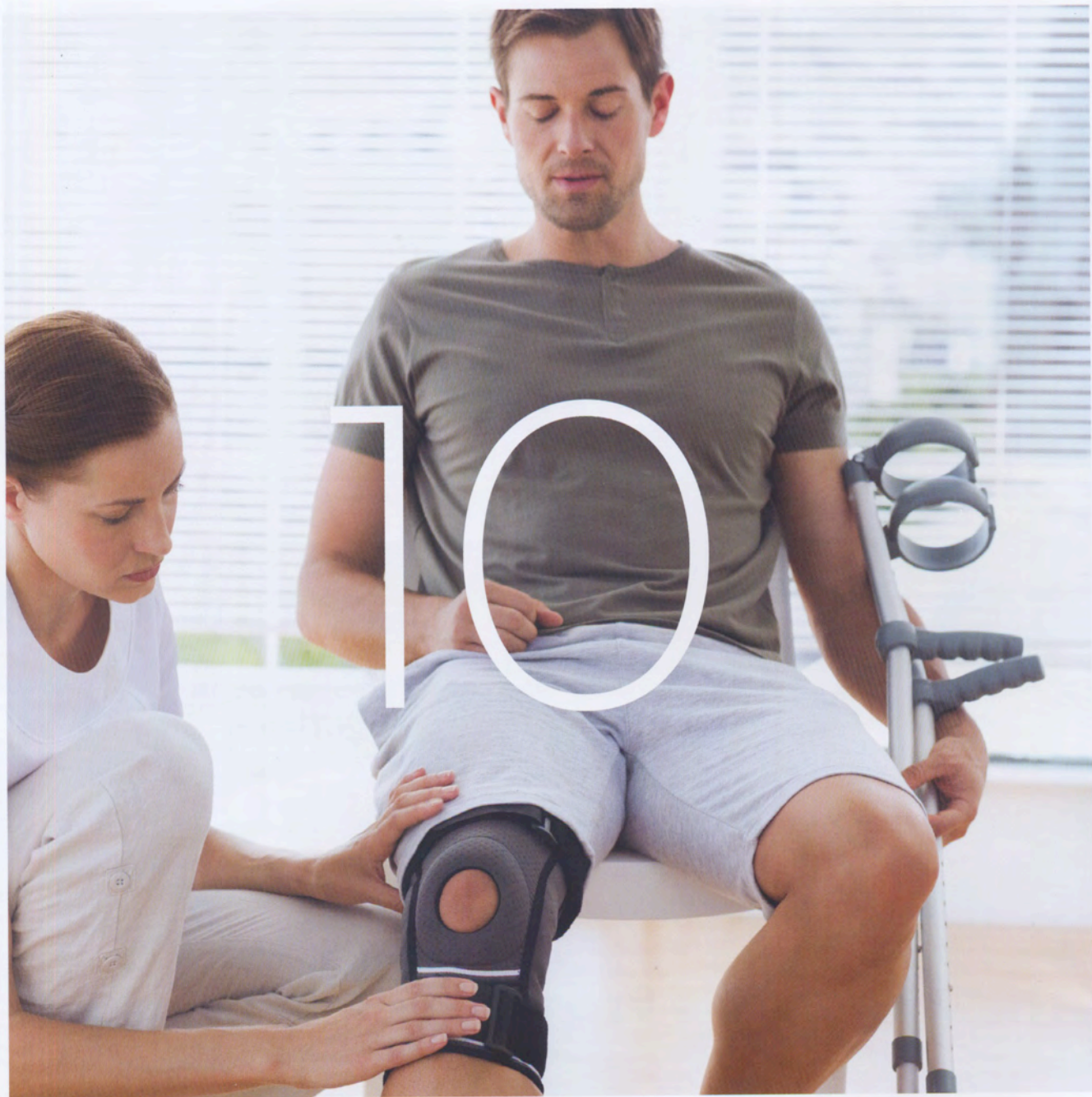
- Greater precision and efficiency of the procedure
- Reduced surgical time
- Reduced exposure to radioactivity during spinal surgeries
- Greater sense of safety for the surgeon during the procedure
- Shorter hospitalization time







Metropolitan Hospital constantly  
upgrades its services,  
aspiring to ensure better health  
and better quality of life.



## **Orthopedics** Implementing the most advanced medical techniques

Metropolitan Hospital's Orthopedic Clinic operates 24/7. Aided by the latest technology, it treats the entire range of emergency and chronic orthopedic conditions, implementing the most advanced medical techniques.

Its staff has long experience in implementing all the modern methods, so as to make the right treatment choice for each individual case.

Due to the impeccable results of the Orthopedic Clinic, as well as the consistency and professionalism of its medical staff, the Hellenic Basketball Federation, the Hellenic Football Federation and Olympiacos have been entrusting the medical treatment of their athletes in Metropolitan Hospital for a number of years.

## **Upper Limb Microsurgery**

### Detection and repair of very small anatomical structures

The term «microsurgery» refers to the surgical technique that uses a surgical microscope.

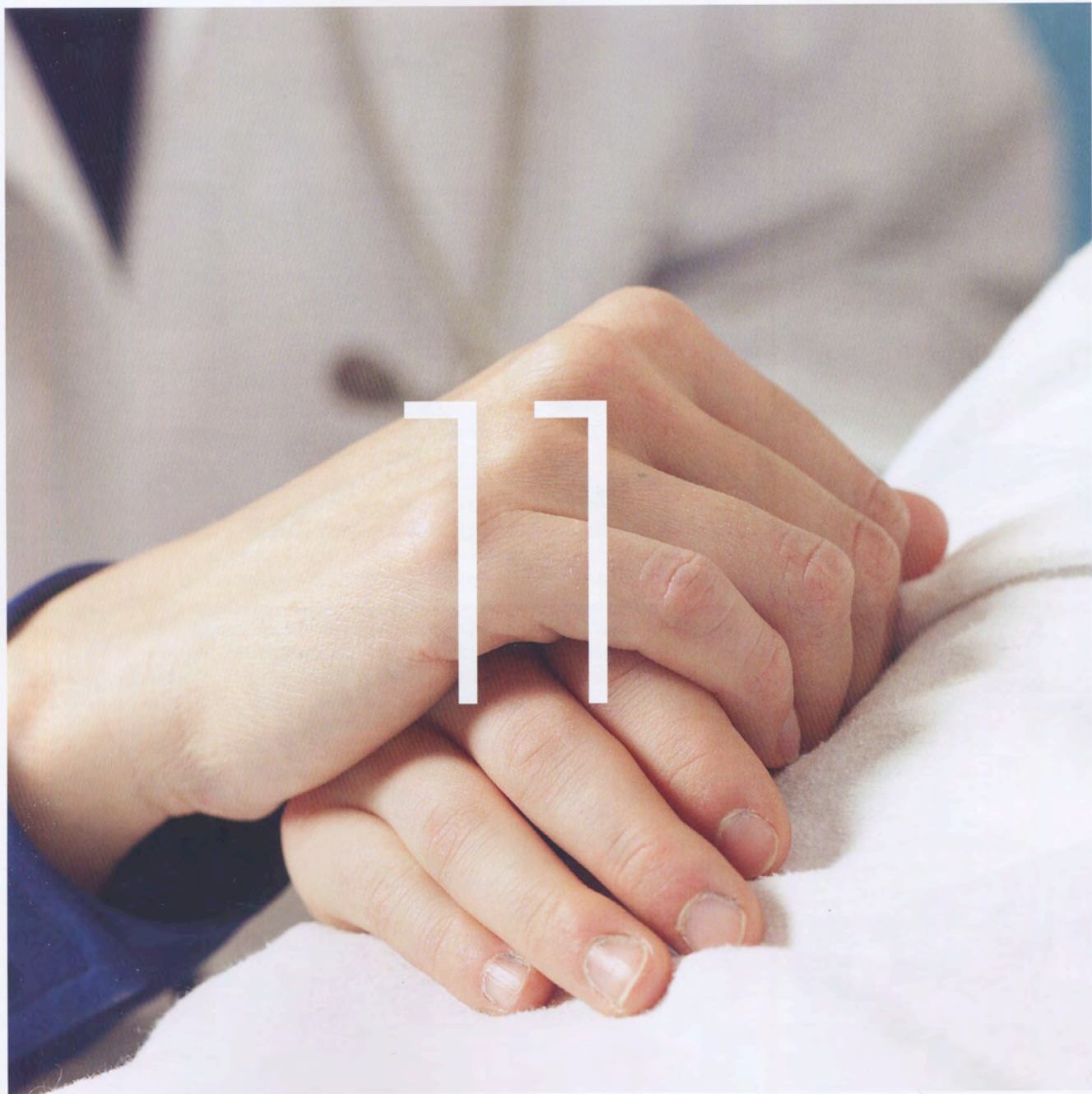
This technique permits the detection and repair of very small anatomical structures of the body, such as anastomosis of very small vessels and nerves (typically around 1mm in diameter), transfer of tissue from one part of the body to another, and replantation of amputated limb parts.

Upper limb surgery deals with the surgical and conservative treatment of all hand and upper limb conditions.

These conditions prevent the patient from performing various operations necessary for daily activities.

#### **Metropolitan Hospital's Microsurgery Department specializes in the following conditions:**

- Branchial plexus surgery
- Peripheral nerve surgery
- Congenital disorders
- Vascularized tissue transfer
- Skin defect coverage
- Hand surgery (skin, bones, joints, tendons)
- Obstetrical paralysis







## Knee & Hip Robotic Surgery

### The robotic era in Orthopedic Surgery

Greece has entered the robotic era in Orthopedic Surgery. This technology is already successfully implemented in some of the largest hospitals (approx. 180) in the USA, as well as in Italy and Germany. The Management of Metropolitan Hospital has reaffirmed its dedication to offering top-level healthcare services by installing the Robotic Arm Interactive Orthopedic System (RIO®), unique in Greece. The RIO® can be used to perform minimally invasive and highly accurate procedures on the knee and hip. Using the innovative MAKOplasty® Partial Knee Resurfacing robotic technique, a large part (over 50%) of the patients who must undergo total knee arthroplasty can avoid it by opting for a less extensive and more effective procedure. This technique only replaces the damaged part of the articular cartilage and not the whole joint, as is the case with total arthroplasty. This restores the knee joint and offers natural movement, as well as faster and painless return to everyday activities.

#### Benefits of the method

- Short hospitalization (1-2 days)
- Greater accuracy due to the CT-assisted 3D preoperative planning and the robotic assistance during surgery
- Small incision (5-6cm)
- Natural feeling in the joint (since the cruciate ligaments are preserved)
- Fast return to normal activities (and sports)
- Minimal perioperative complications (approximately 1/3 compared to total arthroplasty)



Similar benefits can be enjoyed when performing the MAKOplasty® Total Hip Arthroplasty robotic technique for **hip osteoarthritis**, with the most significant being the high precision when placing and aligning the prosthesis, a key factor for impressive long-term results.

## Oncology

### The crown jewel of the Hospital

Metropolitan Hospital's Oncology Division is made up of 3 Oncology Clinics staffed by experienced oncologists who follow the oncologic developments in Greece and abroad and contribute to them. They have designed and participated in international and national clinical trials, while they have significant scientific and educational work to show.

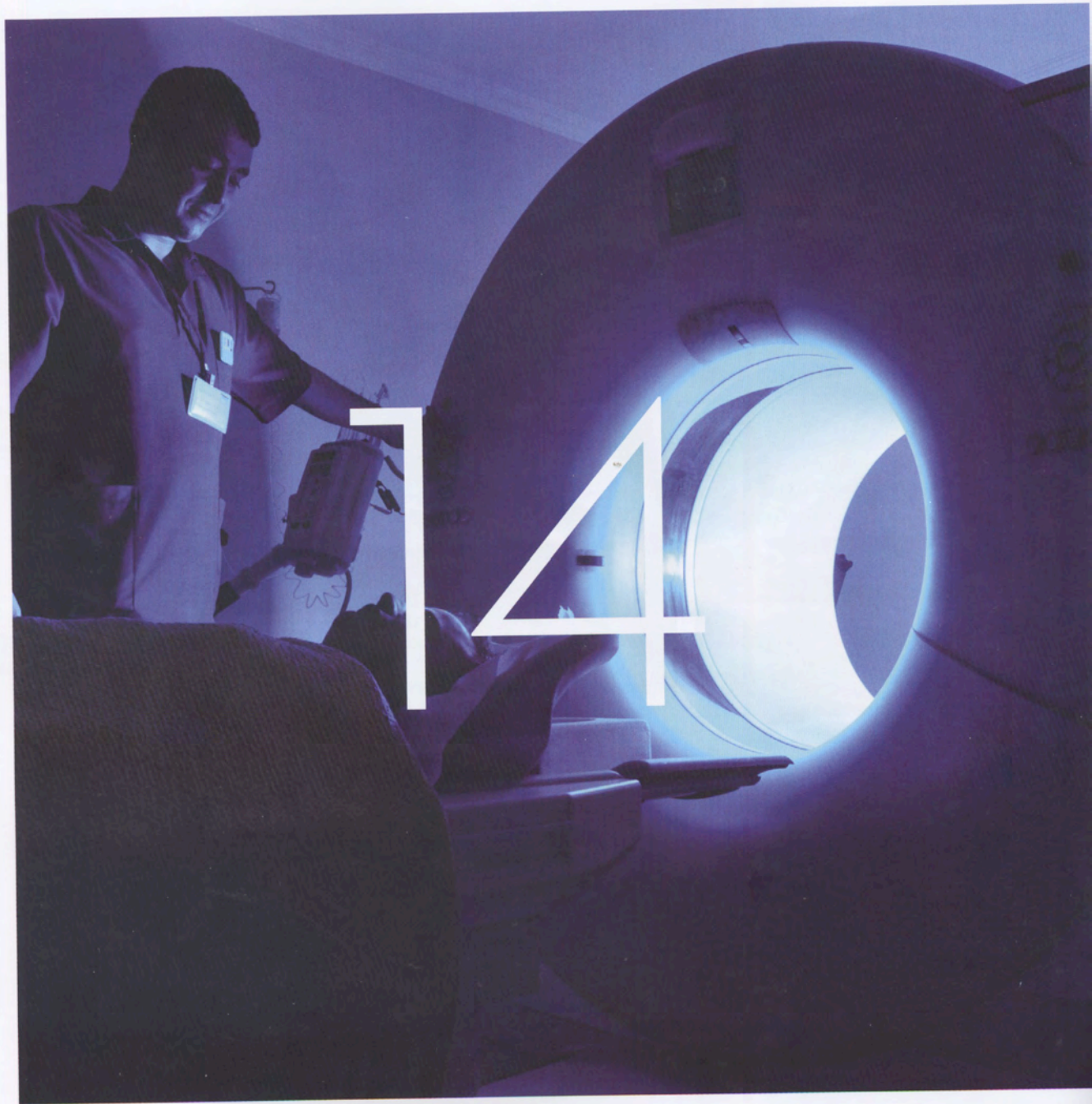
The Oncology Clinics are also staffed by internal medicine specialists, nurses experienced in the hospitalization and treatment of oncologic patients, psychologists, dietitians and experienced administrative personnel. They work closely with the Radiotherapy Clinic, the Diagnostic Radiology Department, the Interventional Radiology Department, the Pain Clinic, the Clinical Pathology Lab, the Molecular Biology Lab and the Breast Clinic, which are the key associates of the Oncology Division. One of the most significant actions of the Oncology Division is the weekly oncology council, where doctors discuss difficult cases along with all related medical specialties.

The dilution of medications is performed centrally by assistant pharmacists, under the guidance of the clinical pharmacist. The clinical pharmacist participates daily in the discussion of cases and visits the Clinic patients.

Most cases are treated in the One-Day Clinic (or Short Hospitalization Department of the Oncology Division), which is the crown jewel of the Hospital. Most of the chemotherapies are performed there, as well as many paracenteses, transfusions, hydrations, etc. Contemporary patient case demands that cancer patients are not hospitalized in wards, unless it is absolutely necessary.

In the context of clinical trials, the Oncology Division offers patients the option of accessing innovative cancer treatment and reaping the benefits. This may include having access to a new medication that may prove beneficial for their disease long before it hits the market. The doctors also actively participate in research, giving their patients the chance to access novel treatments.





## Neuroradiology & Advanced Oncologic MRI

### Functional/Multiparametric MRI

Metropolitan Hospital's leading Neuroradiology & Advanced Oncologic MRI Department implements the most advanced functional/multiparametric MRI techniques. These methods guarantee better anatomical accuracy and functional examination of many human body organs, resolving even the most complex diagnostic problems. It renders possible the mapping of functional brain areas, the study of metabolic activity and the study the microvascular perfusion of various organs.

#### The functional/multiparametric imaging techniques performed at the Department include:

- Spectroscopy
- Dynamic Susceptibility Contrast/Dynamic Contrast Enhanced (DSC/DCE)
- Perfusion
- Diffusion Tensor Imaging (DTI)
- Tractography
- Diffusion-Weighted Imaging/Intravoxel Incoherent Motion (DWI/IVIM)
- Functional MRI
- CSF Flow Study
- Time Resolved 4D Contrast Enhanced MRA

#### Central Nervous System / Neck

State-of-the-art imaging with multiple applications in oncologic conditions and not (diagnosis, preoperative and radiotherapy planning, monitoring of treatment result).

#### Specialized Oncologic Imaging

**Breast:** MRI is the most significant tool for complementary screening and diagnosis of breast cancer. The high-resolution imaging contributes to early diagnosis and optimum treatment. Breast MRI is performed in accordance with the American College of Radiology (ACR) guidelines, using special techniques and processing data with CAD analysis software.

**Male & Female Pelvic Organs:** The study of lower pelvic organs (e.g. uterus, vagina, prostate, urinary bladder, rectosigmoid part of the large intestine, rectum, etc.) using advanced MRI techniques contributes to evaluating the initial extent of cancer (staging) more accurately and to monitoring the treatment result. This precise mapping of tumors provides valuable insight for choosing the most suitable treatment (surgical procedure, radiotherapy, chemotherapy). Furthermore, the system supports targeted biopsies and early detection of recurrence.

In tune with the international standards, the Department works closely with the Neurology and Neurosurgery Clinic, as well as the Surgery, Internal Medicine & Oncology and the Radiation Oncology Clinics within the Hospital. To achieve personalized treatment and the optimum diagnostic and treatment result for each patient, the imaging information offered by the scans performed within the Department is complemented by relevant clinical information raised during the weekly Oncologic and Neurosurgery Councils.

## Microsurgical Oncology

### Serving patients with peritoneal malignancies

The Clinic mainly serves patients with peritoneal malignancies. It also specializes in the surgical treatment of abdominal and pelvic tumors, as well as the entire range of general surgery procedures, and participates in the Hospital's after-hour services.

#### **Main conditions treated:**

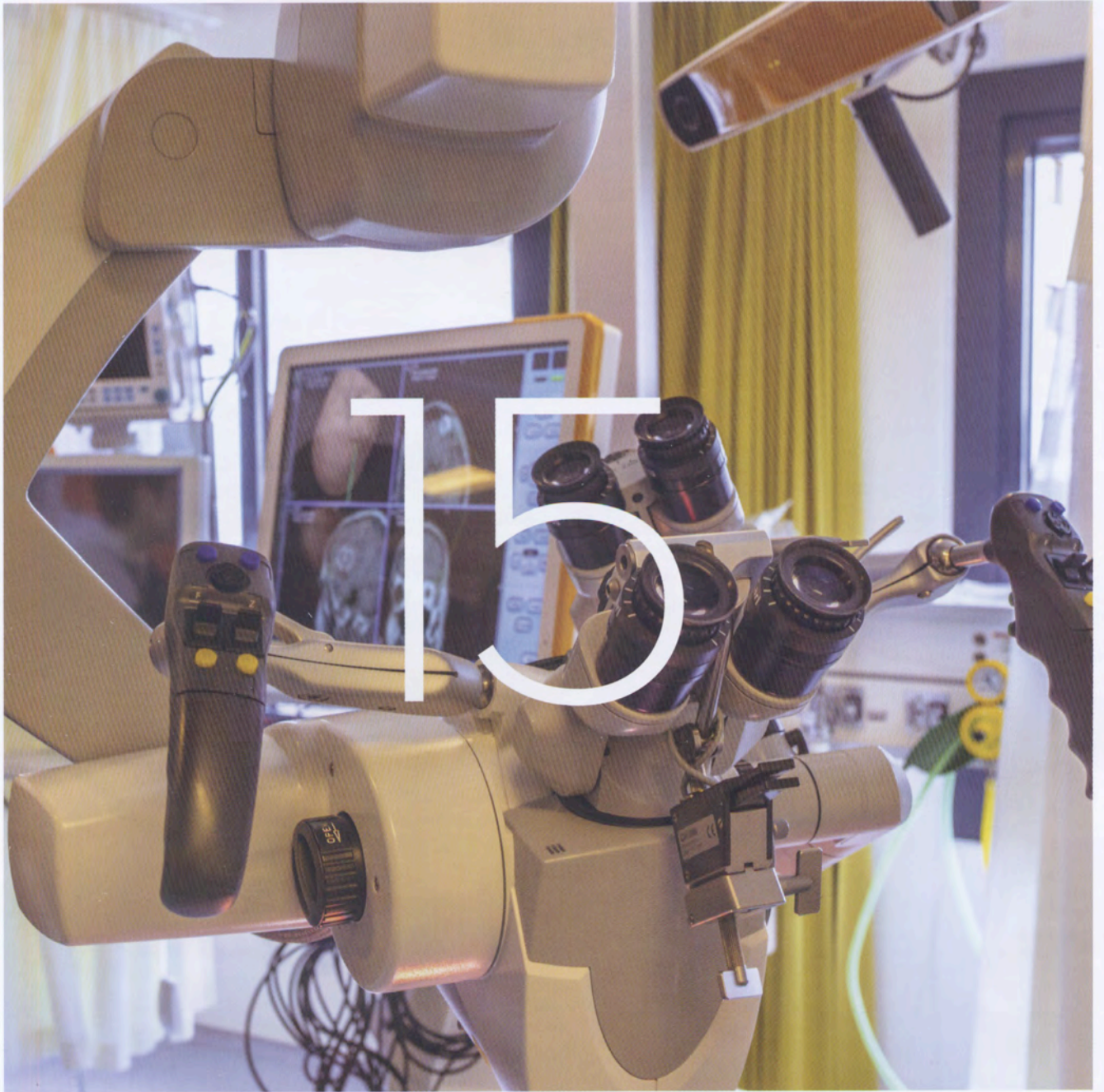
The main conditions that may cause peritoneal malignancies include pseudomyxoma peritonei, peritoneal mesothelioma, other primary peritoneal carcinomas, ovarian cancer, colon and rectal cancer, stomach cancer and peritoneal sarcomatosis.

#### **Surgical treatment:**

Nowadays, peritoneal malignancies are treated with cytoreductive surgery, which aims at the almost complete excision of the macroscopically visible tumor and is performed with typical peritonectomies. The typical peritonectomies include:

- epigastric peritonectomy
- left and right subphrenic peritonectomy
- left and right side-wall peritonectomy
- greater omentum and spleen excision, lesser omentum excision
- cholecystectomy and omental bursa excision
- pelvic peritonectomy, which includes excision of the rectosigmoid and the internal female genitalia
- excision of other abdominal organs, aiming at almost complete cytoreduction

Even if the cytoreduction is complete, without a trace of macroscopically visible tumor, a tiny tumor will almost always still remain and can only be removed with local/regional chemotherapy. This forms part of cytoreductive surgery, either in the form of hyperthermic intraperitoneal chemotherapy (HIPEC) or in the form of early post-operative intraperitoneal chemotherapy (EPIC).





## Radiation Oncology

### Applying all the contemporary techniques

A model comprehensive Radiotherapy Unit has been operating at Metropolitan Hospital since 2008, applying all the contemporary techniques.

- **Intensity-Modulated Radiation Therapy (IMRT):** RapidArch by Varian is a type of Volumetric Arc Therapy (VMAT) that delivers a precisely sculpted 3D dose distribution with a single 360-degree rotation of the linear accelerator. This new technique for delivering IMRT allows maximum protection of the normal tissue, limits side-effects and increases the intensity of the treatment result.
- **Image Guided Radiation Therapy (IGRT):** This technique uses imaging before a course of radiation therapy and while the patient is positioned on the treatment table. This maximizes the precision and accuracy of the radiation therapy.
- **3D MRI-Based Brachytherapy:** It is the first time that 3D MRI Based Brachytherapy for gynecological tumors is performed in Greece, exclusively at Metropolitan Hospital. The local control rates exceed 95% in some cases. The scientists of the Hospital's Radiation Oncology Department have been trained on intratissue image-guided radiation therapy. Especially with regard to gynecological oncology, they are world renowned, with over 70 articles published in distinguished scientific journals.
- **3D Conformal Radiation Therapy:** The radiotherapy plan is designed using 3D images from a CT scanner, improving the coverage of the tumor and avoiding targeting normal organs.
- **LDR & HDR Interstitial Prostate Brachytherapy:** Radioactive sources are placed within the prostate tumor, which receives very high doses of radiation. At the same time, due to the rapid deterioration of the dose at close proximity to the radiation source, the neighboring organs receive very little radiation doses.
- **Intracranial & Extracranial Stereotactic Radiosurgery (SRS) & Stereotactic Radiotherapy (SRT):** It is an excellent alternative to interventional surgery, especially when patients cannot undergo surgery or in cases of inoperable lesions. It is suitable for a multitude of brain tumors, as well as for lung cancer, metastases, repeat radiotherapy, etc. It has also been proven that Stereotactic Body Radiation Therapy (SBRT) is superior to conventional radiotherapy for treating certain tumors.

## **Interventional Cardiology** A revolutionary discovery and an innovative technique

A revolutionary discovery in the area of interventional cardiology has been the development and clinical application of Transcatheter Aortic Valve Implantation (TAVI) for the treatment of patients with severe aortic stenosis.

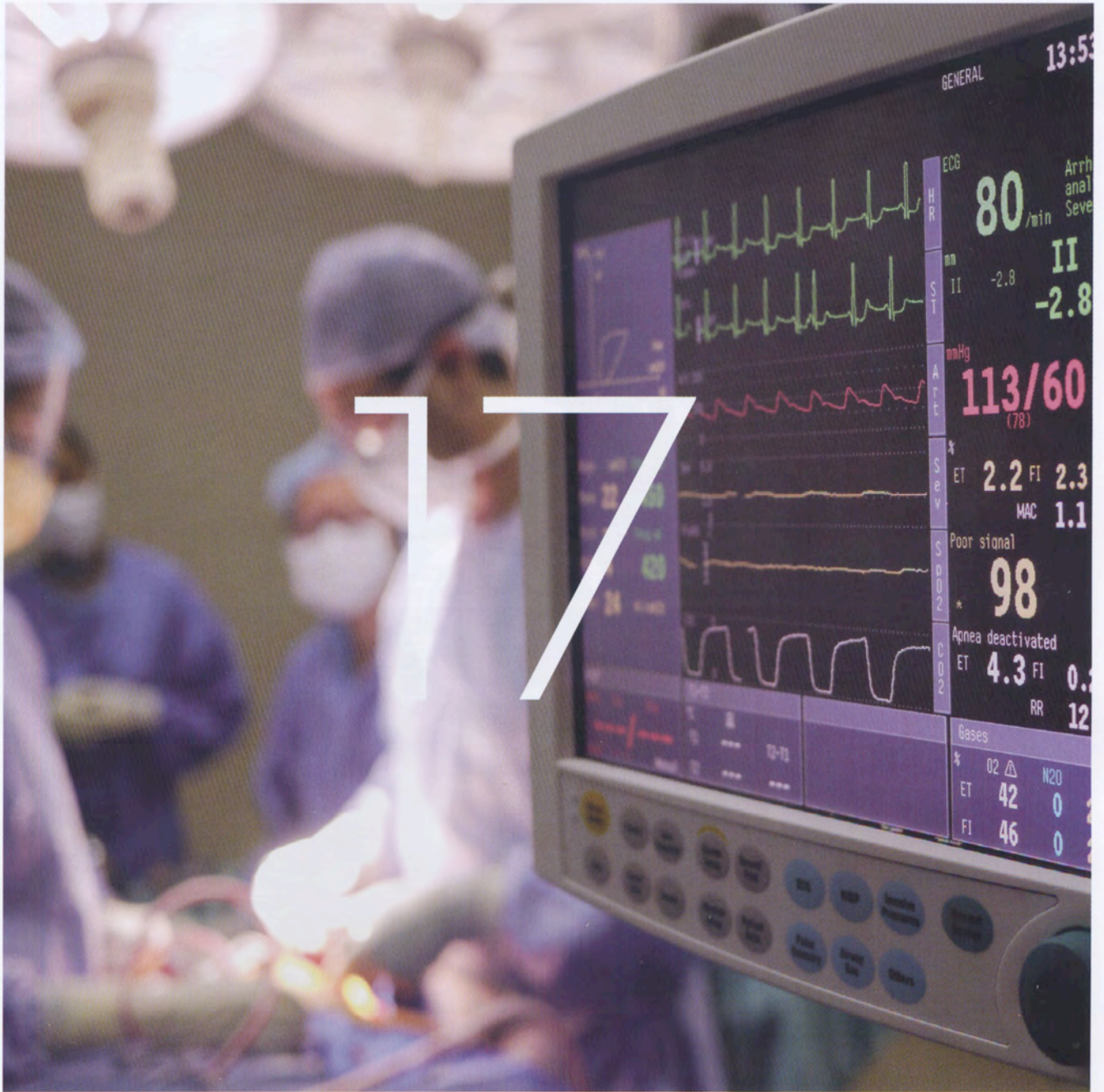
This innovative technique paves the way for an alternative to the surgical replacement of the valve in high-risk patients.

Attached to a special catheter, the bioprosthetic valve is inserted through the femoral artery, or less frequently through the subclavian artery, and is placed in the position of the affected aortic valve, without the need for extracorporeal circulation.

The experience from the procedures performed at Metropolitan Hospital has shown that this method is safe and quite effective, while patients are discharged within 3-4 days of hospitalization.

Another procedure performed at the Hospital is ablation for the treatment of complex cardiac arrhythmias, with the use of advanced technology systems and the option of color 3D mapping of the heart chambers, which allows for the exact localization of the arrhythmia source and its successful ablation.

Furthermore, cardiac resynchronization therapy, which is performed through left ventricular pacing, contributes significantly to improving the cardiac function of patients with heart failure.



GENERAL 13:53

HR 80 /min  
Arrh  
anal  
Seve

ST II -2.8 II  
-2.8

ArTe 113/60  
(78)

SEV 2.2 FI 2.3  
MAC 1.1

SpO2 98  
Poor signal  
Apnea deactivated

CO2 ET 4.3 FI 0.5  
RR 12

Gases  
% O2 Δ N2O  
ET 42 0  
FI 46 0



## Interventional Radiology

### Image-guided procedures using special tools and devices

The Interventional Radiology Department performs image-guided procedures using special tools and devices. These procedures are generally performed under local anesthesia or conscious sedation (neuroleptanesthesia) and do not require large surgical incisions, but simply a small percutaneous puncture measuring a few millimeters.

#### The following applications are available:

##### Vascular Conditions

- Diagnostic angiography
- Peripheral vessel angioplasty and stent placement
- Thrombolysis, thrombectomy
- Placement of permanent or temporary filter in the inferior vena cava
- Placement of intraluminal stent-graft for abdominal aortic aneurysm
- Placement of central venous catheters and ports for chemotherapy or hemodialysis
- Embolization of malformations, hemangiomas, bleeding vessels
- Exclusion of pseudo-aneurysms
- Foreign object removal intravascularly

##### Gastrointestinal Conditions

- Esophageal stent placement for malignant esophageal stricture, dilation and stent placement in the pylorus, duodenum, large intestine
- Dilation of benign esophageal and other accessible digestive strictures
- Percutaneous gastrostomy or gastrojejunostomy
- Embolization of benign digestive fistulas
- Abscess drainage

##### Respiratory Conditions

- Pneumothorax and pleural fluid collection drainage
- Tracheal and bronchial stent placement

##### Hepatobiliary Conditions

- Percutaneous transhepatic cholangiography, biliary drainage and stent placement
- Chemoembolization, embolization and percutaneous RF ablation of hepatic tumors
- Percutaneous port placement for selective arterial chemotherapy
- Transjugular intrahepatic portosystemic shunt (TIPSS)
- Transjugular liver biopsy and wedge pressure measurement
- Transhepatic splenoportography and embolization of esophageal varices
- Percutaneous cholecystostomy
- Portal vein embolization

##### Urogenital Conditions

- Percutaneous nephrostomy and ureteral JJ stent placement
- Embolization and ablation of kidney tumors
- Embolization of spermatic veins in varicocele

##### General

- Image-guided biopsies
- Vertebroplasty

## Gastroenterology Clinic

### New techniques with better results

#### ENDOSCOPIC TREATMENT OF ZENKER'S DIVERTICULUM

Zenker's diverticulum is a rare diverticulum located behind the upper cardioesophageal sphincter. It is more common after the age of 60, predominantly affecting men more than women at a ratio of about 2 to 1. It may be diagnosed with an esophageal X-ray and requires careful endoscopic examination, as endoscopy doctors cannot easily diagnose it.

**The symptoms include:** ● Persistent coughing ● Dysphagia ● Difficulty swallowing liquids ● Weight loss ● Aspiration pneumonia ● Regurgitation of small amount of food ● Posterior cervical junction

Until recently, the treatment of choice was open surgery, followed by long hospitalization and complications. A new endoscopic technique has started being performed over the last few years, with better results and 48-hour hospitalization for the patient. The excision is performed under general anesthesia at the Hospital's Endoscopy Department, using an endoscope that is fitted with a special knife, which gradually excises the diverticulum. Once the excision is complete, the incision is stapled using metal clips to avoid mediastinal abscesses and active hemorrhage. The patient is required to fast for 24 hours and is not discharged until the esophagus has been accessed, to rule out emptying (perforation). So, patients remain in hospital just 24 hours, have no external surgical incisions, are not in pain and can start eating 24 hours after surgery.

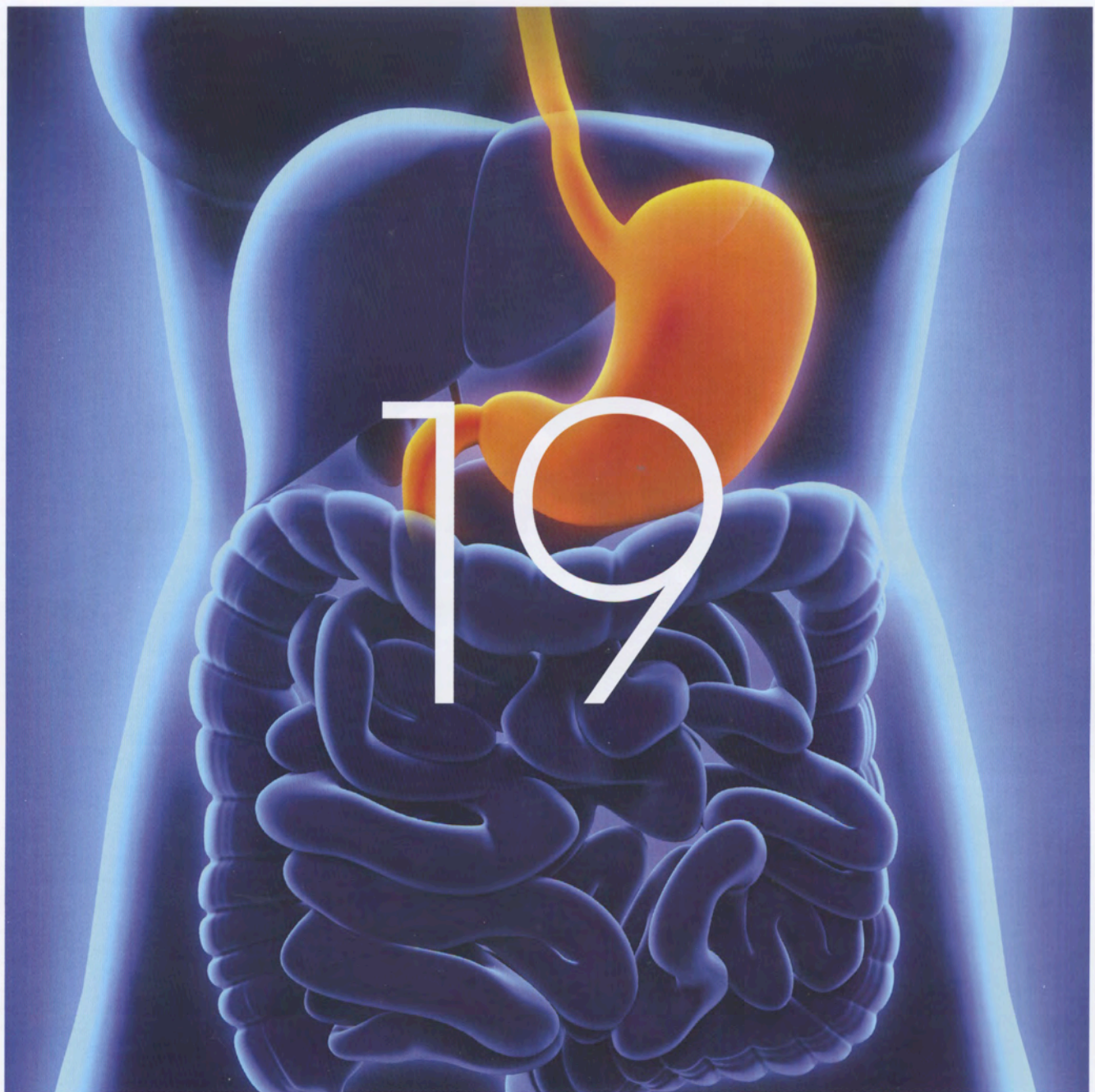
#### PERMANENT SOLUTION - ENDOSCOPIC MYOTOMY FOR ESOPHAGEAL ACHALASIA

Peroral endoscopic myotomy (POEM) for esophageal achalasia has started being performed in Greece in the last two years, exclusively at Metropolitan Hospital, with successful results. The procedure is performed from the mouth with the help of an endoscope, at the Hospital's Endoscopy Department. A special knife is fitted to the endoscope and with precise movements, it cuts the contracted circular muscle fibers which are responsible for causing achalasia.

**Disease:** Achalasia is the most common benign primary motor disorder of the esophagus, marked by progressively deteriorating dysphagia as time goes by, regurgitation of undigested food trapped in the dilated esophagus, heartburn and pain, as well as weight loss at advanced stages. There is also risk of aspiration pneumonia and carcinomatous change.

**Treatment:** Conventional treatment methods include endoscopic balloon dilation (but with temporary results, high failure rates and frequent revision procedures) and Heller myotomy, which is performed in very severe cases, has high failure rates and is accompanied by an antireflux procedure. The revolutionary POEM is the most contemporary, minimally invasive technique for radical treatment of all types of esophageal achalasia.

**Conclusions:** POEM may be performed safely and successfully even on older or gravely ill patients. After POEM, patients do not have any abdominal incisions, are not in pain and may move around freely. They may start receiving liquid food and be discharged on the first postoperative day. POEM assists patients in getting rid of the daily nightmare associated with their eating, which has been going on for decades in some patients, and lets them enjoy better quality of life.





## Leading Ophthalmology Clinic Specialized surgeons and cutting-edge systems

Metropolitan Hospital has established a fully equipped Ophthalmology Clinic, in accordance with the standards that apply in ophthalmology centers abroad. The experienced and specialized surgeons, as well as all other personnel, are available to assist all patients and even offer psychological support.

### Advanced Equipment

The Clinic is equipped with the latest technology and cutting-edge devices and systems, which ensure proper diagnosis, and offer optimal and effective treatment. The operating rooms are fully equipped to deal with all scheduled or emergency surgical procedures, are staffed by experienced surgeons, and offer impeccable techniques and nursing support.

### Specialized Department - Cutting-Edge Technology

The Ophthalmology Clinic is made up of specialized ophthalmology departments, which are in constant communication and work together to offer the best treatment for all cases. One of the most advanced technologies Metropolitan Hospital's Ophthalmology Clinic has to offer is the state-of-the-art operating room for cataract and refractive surgery.

This model room is equipped with the new Femtolaser LenSx, which is used in the initial stages of the procedure for unprecedented accuracy; the best lens fragmentation devices worldwide, Alcon Centurion and Bausch & Lomb Stellaris PC; the Verion Image Guided System for more precise planning of the procedure; and the Haag Streit Lenstar 900 for complete biometrical assessment of the intraocular lens that will replace the cataract lens. Metropolitan Hospital uses the best intraocular lenses worldwide, usually made in the USA or Germany, to correct all refractive errors when removing cataract.



The Clinic's most recent addition, the Wavelight Excimer Laser system for refractive surgery, combined with the Alcon Femtolaser system, are used to correct **myopia, hyperopia, astigmatism and presbyopia**. Presbyopia correction may be performed in various ways: with premium multifocal intraocular lenses, with the monovision system or with intracorneal implants.



## LEADING OPHTHALMOLOGY CLINIC

- **The Glaucoma Department** performs automated perimetry (visual field test) to diagnose and treat glaucoma; optic nerve Optical Coherence Tomography (OCT); and antiglaucoma surgery, including Minimally Invasive Glaucoma Surgery (MIGS), valve implantation and trabeculectomy.
- **A Corneal Transplantation Unit** also operates within the Hospital, licensed by the Greek Health Ministry and the Hellenic Transplantation Society. The Unit is one of the first of its kind in Greece and performs corneal, scleral and amniotic membrane implantations. The Unit also performs collagen cross-linking with riboflavin procedures for keratoconus and corneal ectasia.
- **The Funduscopy Department** is equipped with a digital fundus camera and laser. It performs Digital Fluorescent Angiography, Indocyanine Green Angiography, Retinal OCT, A-B ultrasound, Photocoagulation with Argon Laser. It also performs all surgical procedures relating to the posterior segment of the eyeball, such as hyaloidotomy for various conditions.
- **The Eye Injury and Reconstruction Department** performs complex procedures for severe vision restoration problems following certain conditions or injury. The first quadruple reconstructive procedure of the anterior segment worldwide was successfully performed at Metropolitan Hospital.
- **The Eyelid-Orbit Plastic and Reconstructive Surgery Department** performs surgery on the eyelid, lacrimal apparatus and orbit. Because the Clinic has treated many patients injured in warzones abroad, the surgeons have extensive experience in implanting prostheses and performing reconstructive plastic surgery in severe eye injuries.
- **The Strabismus and Pediatric Ophthalmology Department** treats incidents of strabismus and other pediatric ophthalmology conditions.



**The Clinic also runs an Ophthalmology Check-up Department**, which receives a large number of patients daily during scheduled appointments. The Clinic is on-call 24/7 for medical emergencies.

# AMONG THE LEADING HOSPITALS IN EUROPE

THE FIRST HOSPITAL IN GREECE TO BE CERTIFIED FOR ITS EXCELLENCE IN MEDICAL TOURISM

---

## MEDICAL DEPARTMENTS

Vascular Surgery  
Radiation Oncology  
Allergy Clinic  
Gastroenterology  
General Surgery  
Gynecology  
Diabetes - Obesity - Metabolism  
Ophthalmology  
•Refractive Surgery •Advanced Eye Microsurgery  
Endocrinology  
Hepatology  
Thoracic Surgery  
Pain Clinic  
Cardiology  
Cardiac Surgery  
Breast Center  
Head & Neck Surgery  
Memory Clinic  
Neurology  
Neurosurgery  
Neuropsychology  
Oncology  
Orthopedics  
Urology  
Internal Medicine  
Pediatrics  
Periodontology & Dental Implants

Pulmonary Clinic  
Plastic & Reconstructive Surgery  
Oral & Maxillofacial Surgery  
Medical Physics  
Physiotherapy  
Ear, Nose and Throat

## DIAGNOSTIC & INTERVENTIONAL DEPARTMENTS

Radiology  
Interventional Radiology  
CT Scan - PET/CT  
Interventional Endoscopy  
Interventional Neuroradiology  
Central Labs  
Cardiology Lab  
MRI - Diagnostic Neuroradiology  
Mammography  
Osteoporosis Unit  
Nuclear Medicine  
Robotic Surgery  
Robotic Orthopedics  
Neurophysiology  
Hyperbaric Oxygen Therapy  
Ultrasound  
Special Units:  
• ICU • HDU • Cardiac ICU  
Outpatient Clinic  
Emergency Department



We invest in technology,  
capable scientists  
and the best associates  
to make you  
stronger and healthier



9 Ethnarchou Makariou & 1 E. Venizelou Streets 18547 Neo Faliro, [www.metropolitan-hospital.gr](http://www.metropolitan-hospital.gr)

**210 4809000**