

ANNUAL REPORT 2017 NA HOMOLCE HOSPITAL





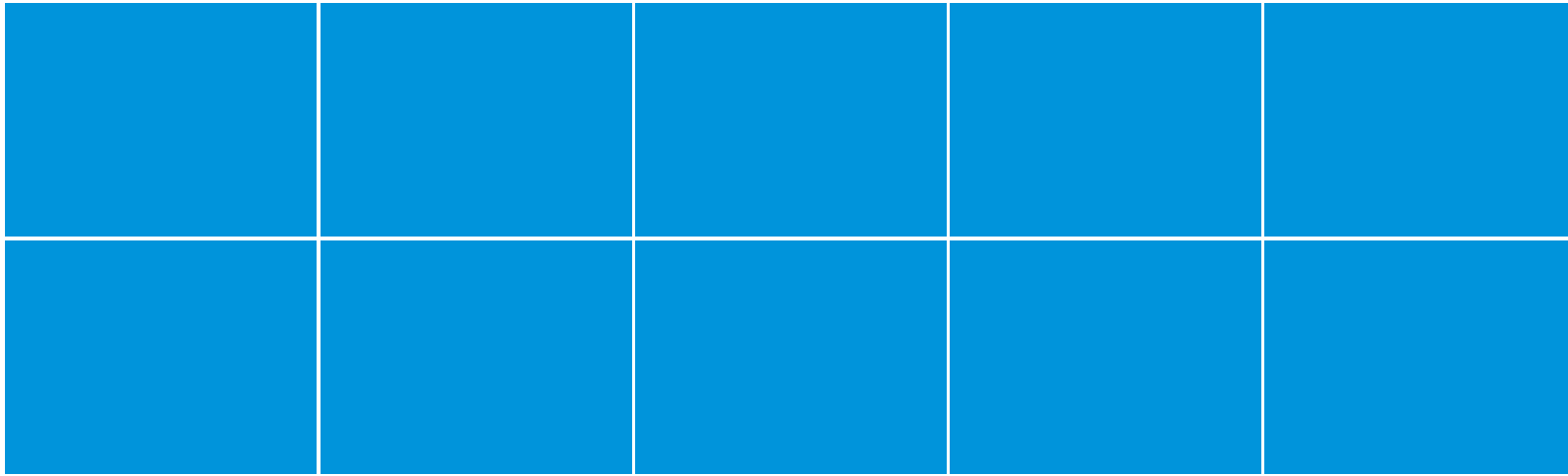
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ABOUT US



A WORD FROM THE DIRECTOR



The year of 2017 was really challenging for Na Homolce Hospital, especially with regard to the continuing restructuring. At the same time, it was a successful year. Our physicians performed numerous top operations, some of which were absolutely unique and took our hospital to the highest level. Our main programs - the Neuroprogram, Cardiovascular Program and diagnostics - have strengthened their very important position in the world of advanced medicine.

Considering the tough approach of the Tax Office, the economic results of the hospital were very good. With total revenues of CZK 3.3 billion, the profit of CZK 16.9 million corresponds with the year 2016, and if the hospital had not had to pay fines to the Tax Office for faults of the previous management from 2008-2013, the profit would be about CZK 40 million. I am glad we managed to increase investments in 2017, which reached the amount of CZK 167 million including subsidies. Of this amount, we invested 78% in medical technologies, 13% in the operation of the hospital and 9% in information technologies. To mention the most important investments, I would like to highlight the purchase of a new PET/CT scanner, mamography and skiagraphy equipment, and the 113 new beds with antidecubitus mattresses. We also managed to finish some necessary operational repairs and reconstructions. Of the most important ones, I would like to mention the repair of six lifts, the reconstruction of the hot utility water heating system in the energy center, the repairs of pavements at the Congress Center and along the Physiotherapy Department, we repaired floors in some operating theaters and departments, and finished building a new server room, necessary for upgrading IT technologies at the hospital.

Within the process of winding-up two subsidiaries the hospital sold Homolka Premium Care, a. s. on favorable terms. The majority of the revenue will be invested in hospital development, specifically in selected medical technologies, especially in the outpatient area. At the same time, delete a long-term cooperation has been established based on a contractual relationship, which will bring the hospital annual revenues in the order of a million Czech crowns in future.

I am pleased that the fourth JCI reaccreditation audit ended with the recommendation of the international auditor commission to re-award Na Homolce Hospital the prestigious international JCI accreditation. We have thus become the hospital which has held this certificate for the longest period of time in the Czech Republic. I would like to thank to all the employees who were involved.

Dr. Ing. Ivan Oliva

HOSPITAL MANAGEMENT IN 2017



Dr. Ing. Ivan Oliva

Zbyněk Fuksa, MD

Ing. Martin Dařílek

Ing. Miloš Ondrušek

Eva Kuříková

Assoc. Prof.
Otakar Bělohávek, MD, CSc.

Director of the Hospital

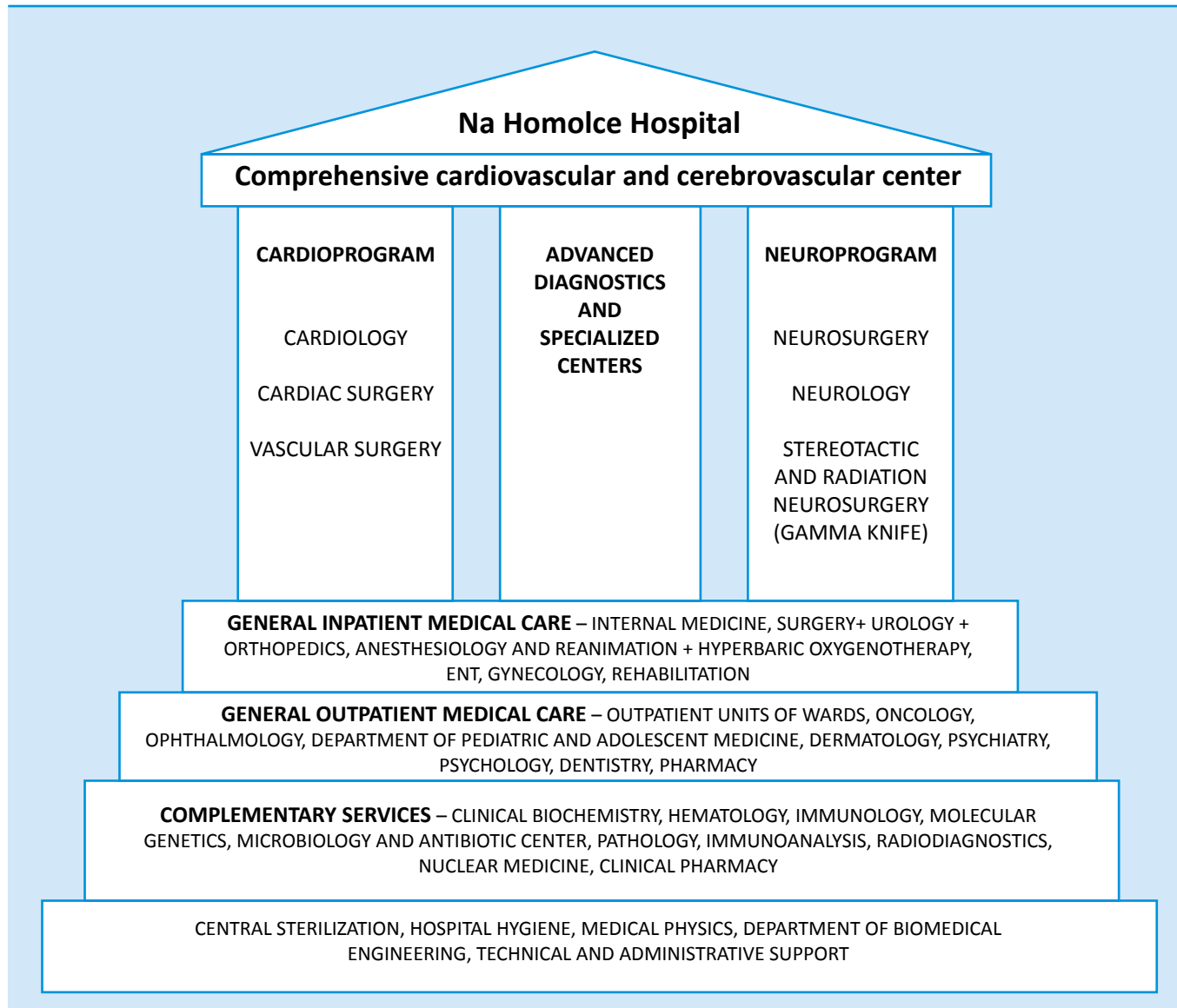
Deputy Director
for Treatment
and Preventive Care

Deputy Director
for Economic
and Technical
Administration

Appointed to manage the
Business
and Medical Care
Economy Department

Deputy Director
for Nursing Care

Deputy for Science
and Research



BASIC, STAFF AND WAGE DATA

Basic data

Number of employees	Number of beds	Number of admissions	Number of surgeries	Number of outpatient interventions
1,864	357	20,476	16,282	1,198,046

Staff and wage data for 2017

	Physicians	Pharmacists	General nursing staff	Other non-medical professionals	Medical staff holding professional qualifications	Other medical staff holding professional and specialized qualifications	Technical staff	Manual workers	Total
Wages paid, total (CZK)	317,167,528	11,365,206	380,784,796	59,768,093	33,350,819	75,392,381	130,022,549	47,214,604	1,055,065,976
Average FTE	279.66	16.39	726.46	117.8	62.40	227.39	274.68	159.37	1,864.15
Average salary (CZK)	94,510	57,785	43,680	42,281	44,539	27,630	39,447	24,688	47,165

HNMP - healthcare non-medical professionals
 TAS - technical and administrative staff

OUR ACTIVITIES

NEUROLOGICAL-NEUROSURGICAL PROGRAM

Department of Neurology

Head of Department: Miroslav Kalina, MD

Activities of the Department

- Inpatient care of neurological patients
- Epilepsy Center with a complete epilepsy surgery program comprising an epilepsy monitoring unit (EMU) and an epilepsy counseling unit providing outpatient care for patients with epilepsy
- Neurovascular outpatient unit
- Transcranial Doppler ultrasonography
- Two electromyography laboratories using EMG and somatosensory and motor evoked potentials
- Specialized laboratory for visual and auditory evoked potentials
- Two EEG laboratories
- Center for Sleep Disorders
- The neurological ICU covering the whole range of acute neurological conditions, with a focus on acute cerebrovascular diseases, is a key component of the Comprehensive Cerebrovascular Center

Organizational units of the Department

- **Inpatient ward:** The Epilepsy Center with a highly specialized care center status with an Epilepsy Monitoring Unit (EMU) and a counseling unit provides its services within the Department of Neurology as a relatively independent unit managed by a physician and a nurse. The Department of Neurology also includes a fully accredited Center for Sleep Disorders with a sleep laboratory for sleep monitoring by polygraph recording, with two monitored beds, for indications of correction ENT operations, and especially supportive aids (CPAP, BiPAP) helping patients with sleep apnea syndrome.
- **Intensive Care Unit**
- **Outpatient department:** The outpatient section includes an extrapyramidal counseling unit, an outpatient unit focused on neuroimmunological diseases of the central nervous system, in particular multiple sclerosis, an outpatient unit for patients with cerebrovascular diseases, and an outpatient unit for patients with neuromuscular diseases.

Basic data

Number of physicians	17
Number of nursing staff	46
Number of administrative staff	2
Total number of beds	36
Number of standard beds	18
Number of intensive beds	12
Number of EMU beds	4
Number of sleep laboratory beds	2
Occupancy rate of standard beds (in %)	86.1
Bed occupancy rate - ICU (in %)	90.4
Average treatment period (in days)	5.2
Average treatment period - standard care (in days)	4.2
Average treatment period - intensive care (in days)	8.3
Number of admissions	1,632 (102% of year 2016)
Total number of outpatient examinations	18,621 (101% of year 2016)

Performance overview

Inpatient admissions

The Epilepsy Monitoring Unit treated 176 patients within hospitalization. In total, 14 patients were monitored from electrodes introduced using an invasive method, 38 patients were indicated for an epileptosurgical operation - an open surgery or implantation or re-implantation of a vagus nerve stimulator (13 implantations).

NEUROLOGICAL-NEUROSURGICAL PROGRAM

Other complicated cases continued to be treated in the ICU. A total of 61 mechanical removals of endovascular thrombi and intra-arterial thrombolysis procedures, as well as 71 intravenous thrombolysis procedures were carried out – an increase as compared to 2016. The ICU's capacity, in particular for patients with acute ischemic stroke increased; however, it is still limited by an inadequate number of beds for chronic respiratory and follow-up care, which results in prolonging the term of hospitalization in the ICU and the standard unit. In total, 88% of patients were admitted from Prague or the Central Bohemian region and 12% from other regions of the country.

Outpatient department

The year-on-year comparison shows an increase in the number of outpatient examinations (101% as compared to 2016). A positive trend is a continuous increase in the number of patients in specialized outpatient units – epilepsy, sleep, neuroimmunological and extrapyramidal. The capacity of the electrophysiological, EEG and ultrasonography laboratories, and in particular the neurology outpatient unit, is fully used.

Changes / new events in the previous year

- The Department of Neurology provides postgraduate education in epileptology (4 fellows + training of a specialized epileptologist), electroencephalography (training courses, 4 fellows) and electromyography (2 fellows). In 2017, specialized undergraduate training in neurology of students from the 3rd Medical School of Charles University (Doc. Vojtěch, MD) continued.
- The Department is one of the three main centers for epilepsy and epilepsy surgery in the Czech Republic. A total of 38 patients were operated on. The long-term results of epilepsy surgery exceed the world standard in certain parameters, especially in the field of extratemporal epilepsies. Close cooperation with the Department of Cardiology continues in diagnosing unclear disturbances of consciousness, and a specialized center for diagnosing and treating these conditions has been established.
- The Department continues to be perceived and used by specialists in neurology as a leading facility providing top quality consulting services mainly in the field of epileptology, cerebrovascular disorders and sleep disorders.
- The Center for Sleep Disorders has full accreditation and its capacity is fully used in the long run. One of its focuses is diagnosing sleep disorders of difficult-to-treat hypertension. The Center treated 227 patients, of which 71 were indicated for therapy by permanent overpressure in the airways (CPAP or BiPAP).
- The concept of a Comprehensive Cerebrovascular Center managed by M. Kalina, MD, has been successfully implemented. There are only three such centers in Prague and the Central Bohemian region.
- In 2017 the Department of Neurology was awarded Type II accreditation for the following 5 years.

Perspectives for the next year

A moderate increase in hospitalizations, particularly in terms of their numbers, is a principal task. In 2018, the Department plans to use its higher ICU capacity to further increase the number of patients with cerebrovascular disorders receiving highly specialized treatment. A complete reconstruction of the air-conditioning system in the ICU will be carried out in the summer months.

Educational and other specialized activities

- **Membership of professional associations:** The Czech Neurological Society, Czech League Against Epilepsy (Dr. Vojtěch and Dr. Kalina are members of the Board), the Epistop Civil Association (Dr. Kalina is a member of the Board), EPI 99 (Dr. Kalina is a member of the Board)
- **Lectures, educational activities:** Regular lectures at the Institute of Postgraduate Training in Healthcare, organization and managing of the course in acute neurology (Dr. Kalina), managing study visits in the field of neurointensive care (Dr. Vondráčková, Dr. Kalina), active participation in congresses abroad, a number of presentations at domestic national events, teaching activities at the 1st and 3rd Medical Schools, Charles University (Dr. Vojtěch), managing study visits in epileptology and electromyography (Dr. Jerie), neurological study visits of physicians from other specializations within postgraduate certificate preparation

Department of Neurosurgery

Head of Department: Jan Klener, MD

The Department of Neurosurgery continued to deal with comprehensive diagnostics, surgical treatment and follow-up care of patients suffering from diseases of the central and peripheral nervous system in 2017 in order to provide comprehensive and safe services that improve patients' quality of life.

Department's activities

These activities mainly involve neurosurgical treatment of patients with diseases of the brain, base of the skull, spinal cord, spine and peripheral nervous system, including patient education, preoperative diagnostics, the actual surgical treatment and postoperative neurointensive and follow-up care. In particular, emphasis has been put on the high quality of surgical and postoperative care, using modern methods and technology, minimizing stress and risks for patients, good communication with them, and observance of JCI accreditation standards.

Patient care was traditionally provided in four key areas – as part of the neuro-oncological, neurovascular, functional neurosurgical and spinal programs. In 2017, a total of 2,624 surgeries were performed, 2,461 patients were admitted and 11,190 patients were seen in the outpatient unit.

The Department of Neurosurgery is a superregional, national or even international center for a number of treated diagnoses. Morbidity of planned surgeries ranges at lower values than national data. These are mainly patients with serious diseases which can only be treated in a small number of centers in the Czech Republic.

In 2017, surgical treatment was performed in a multifunctional complex of operating rooms equipped with state-of-the-art technology, including intraoperative magnetic resonance imaging (MRI) and surgical navigation systems, surgical microscopes, and intraoperative electrophysiological monitoring. Integration of operating room technologies enables the Department to provide patients undergoing operations of the brain, spinal cord or spine with a higher standard of precisely targeted, highly efficient and safe treatment.

Neuro-Oncological Program

Within the Neuro-Oncological Program, operations on a wide range of brain tumors, including both intra-axial and extra-axial brain tumors, as well as tumors of the base of the skull are performed. In the surgical treatment: emphasis is put on mini-invasive approaches which reduce the burden on patients. Where appropriate, "keyhole" craniotomy and "non-retraction" neurosurgery, minimizing trauma to the brain, are preferred. The Department of Neurosurgery of Na Homolce Hospital is one of the pioneers in the use of this technique and is a leading facility in the Czech Republic. The surgical standard employs microsurgery techniques using neuronavigation and intraoperative imaging aided by intraoperative MRI and perioperative duplex ultrasonography. The safety and accuracy of surgical operations are increased by using functional neuronavigation, intraoperative fluorescent visualization of tumors or intraoperative electrophysiology monitoring. In the field of electrophysiological monitoring, we promote the use of subcortical stimulation integrated in the suction device that is permanently placed in the surgical field, leading to increased safety of the procedure. Resections of speech centers are routinely performed by means of so-called "awake craniotomy" which means that part of the procedure is performed on a patient who is awake. We continued in the development of endoscopy surgical techniques, especially in surgeries of hypophysis adenomas, and rarely in surgeries of intradural tumors.

In addition to its own surgical program, the Department of Neurosurgery also promoted other treatment methods for patients with brain tumors in 2017, for instance in the form of regular interdisciplinary neuro-oncology workshops attended by a multidisciplinary team of specialists from Na Homolce Hospital and oncologists from Motol Teaching Hospital (fractionated radiotherapy, chemotherapy, radiosurgical treatment especially with the use of Leksell Gamma Knife or proton treatment).

Neurovascular Program

With regard to the neurovascular program, the Department of Neurosurgery is part of the Comprehensive Cerebrovascular Center which was established at Na Homolce Hospital in April 2010.

The main task is to provide comprehensive care to patients with subarachnoid hemorrhage which includes both treatment of the most frequent cause of bleeding, i.e. cerebral aneurysm rupture, as well as neurocritical and other types of care. A wide range of microsurgical and endovascular treatment techniques are available. In 2017, microsurgical treatment included a broad range of currently used methods – plain clipping, clip reconstruction, temporary clipping and remodeling, trapping and indirect methods using vascular occlusion and revascularization bypass techniques. Neurosurgeons have applied a mini-invasive approach to surgery and cerebral retraction, routinely used electrophysiological imaging, state-of-the-art intraoperative video-angiography and the selectively useful method of flowmetry. In individual cases, circulation was stopped by means of adenosine during cerebral aneurysm surgeries. In the field of endovascular treatment, interventional radiologists have at their disposal all currently available endovascular methods for aneurysm treatment. Microsurgery and endovascular treatments are available around the clock.

NEUROLOGICAL-NEUROSURGICAL PROGRAM

The year 2017 saw large numbers of operations on unruptured aneurysms, arteriovenous malformations and cavernomas, as well as numerous operations to stop spontaneous intracerebral hemorrhage. In cooperation with the Department of Neurology, procedures were performed in accordance with prepared indication criteria for decompression (pressure relief) craniotomy for some types of ischemic cerebral strokes, and bypass procedures between extra- and intracranial blood flow.

The safety of surgical procedures to treat vascular lesions can be increased by using microscope fluorescence mode which shows the patency of critical vessels and obstruction of pathological vessels after the application of a special fluorescent agent. Procedure safety is also increased by a flow-meter measuring blood flow in individual arteries. Monitoring of blood flow allows for a prompt response to hemodynamic changes and prevents a critical lack of blood supply to individual parts of the cerebral tissue.

Functional Neurosurgery Program

The Functional Neurosurgery Program mainly includes epilepsy surgery and neurosurgery aimed at reducing pain. The Department of Neurosurgery in Na Homolce Hospital is one of the largest in the country for epilepsy surgery. In cooperation with the Neurology Department, Leksell Gamma Knife Center, Department of Radiodiagnostics, and PET Center, approximately 30-40 patients are operated on each year.

Resection operations were carried out both by standard navigation technique and by stimulation treatment (application of vagal stimulators). During the procedure, patients are examined by intraoperative MRI which provides instant feedback on the extent of the resection, thus increasing the safety and efficiency of surgical procedures. In cooperation with the Department of Stereotactic and Radiation Neurosurgery, selected patients with drug-resistant epilepsy are treated by stereotactic thermal lesion.

The main procedures aimed at alleviating pain include a so-called microvascular decompression and partial sensory rhizotomy for intractable pain of the trigeminal nerve. The treatment of pain by neurostimulation and neuromodulation has been further developed in collaboration with the Department of Anesthesiology and Resuscitation.

Spinal Surgery Program

The Department of Neurosurgery at Na Homolce Hospital has been for years one of the leading centers in the Czech Republic for its spinal surgery program. These operations are performed on the entire spine using all access routes to treat degenerative diseases, as well as trauma and oncological conditions. Preference is given to a microsurgical approach and safe minimally invasive techniques using electrophysiological monitoring where indicated. Spine surgery uses a complete range of spinal implants, including arthroplasty systems and percutaneously implanted stabilizers at its disposal. A A

NEUROLOGICAL-NEUROSURGICAL PROGRAM

A minimally invasive character is also preferred for major fixation surgeries which can be performed by means of novel, safe techniques. Further, minimally invasive percutaneous vertebroplasty or kyphoplasty are used, which are most commonly performed to treat osteoporotic fractures of the vertebral column, in cooperation with intervention radiology.

The range of spinal tumor operations included in 2017 all types of lesions, including intradural, extradural, intramedullary and extramedullary tumors.

Basic data

Total number of beds	65
Number of standard beds	45
Number of intensive beds	8
Number of intermediary beds	12
Number of physicians	18
Number of general nursing staff	88
Number of outpatient examinations	11,190
Number of admissions	2,461
Number of admissions (in %)	82
Average treatment period (in days)	7.1

Breakdown of interventions

Cerebral tumors	230
Vascular diseases	181
Functional procedures	67
Spinal diseases, including tumors	1,602

NEUROLOGICAL-NEUROSURGICAL PROGRAM

Craniocerebral injuries	102
Other	442
Total	2,624

Educational, research and other specialized activities

- The Department of Neurosurgery of Na Homolce Hospital is the Center of Excellence in navigation neurosurgery and neurosurgery for the dynamic stabilization from the cervical spine (Bryan, Prestige, Prospace, Discover) in the Czech Republic and the Eastern European region.
- In 2017, neurosurgeons of Na Homolce Hospital were involved in postgraduate training of neurologists and neurosurgeons for postgraduate certificate and organized study visits in neurosurgery for Czech and foreign physicians.
- In 2017, 5 internal grant projects were carried out in the Department of Neurosurgery. The physicians took an active part in international and national congresses and gave 25 presentations in 2017. Two physicians participated in long-term study visits to top centers in the U.S.A.

Department of Stereotactic and Radiation Neurosurgery

Head of Department: Assoc. Prof. Roman Liščák, MD, PhD

Activities of the Department

Radiosurgical treatment by Leksell gamma knife, stereotactic and functional neurosurgery. In addition to consulting and follow-up care provided to our neurosurgical patients, our outpatient unit provides also specialized ophthalmic and neurosurgical consulting care.

Organizational units of the Department

Outpatient clinic: Neurosurgical outpatient unit, neurophysiological outpatient unit, neurological outpatient unit, ophthalmological outpatient unit

Inpatient clinic: 1 operating room for stereotactic and functional neurosurgery, Leksell gamma knife treatment unit

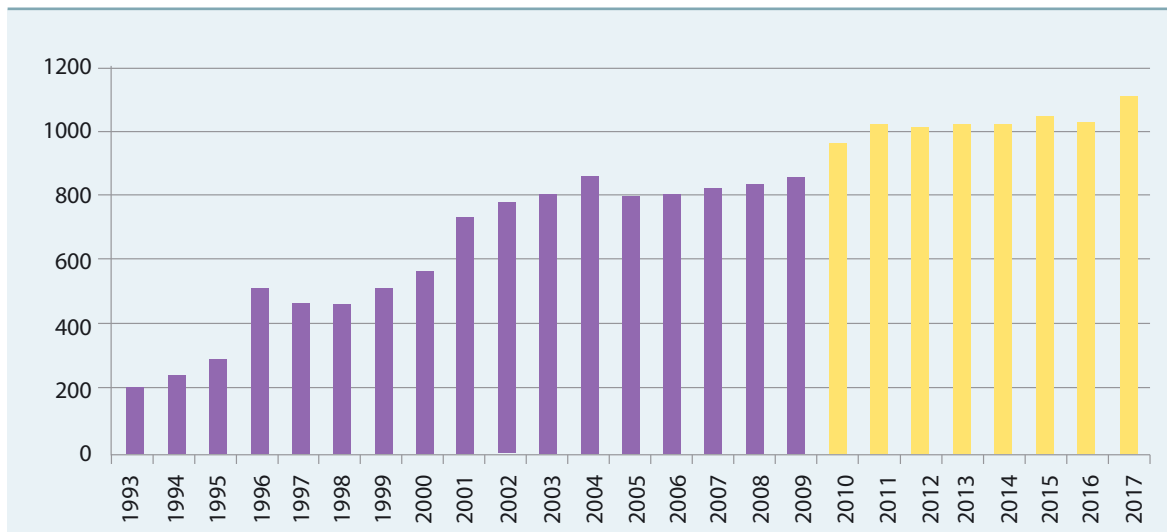
Operational data

Number of physicians	5 + 2 external ophthalmologists, 2 neurologists, 1 systematized post (vacant at present)
Number of general nursing staff	12 + 1 radiology laboratory assistant
Number of other staff	7 (3 assistants, 4 paramedical staff)
Number of beds	8 – short-stay ward (Monday–Friday)
Number of operations performed using Leksell gamma knife	1,101
– Of which 90 were foreigners (8,2%) – Poland 14, Slovakia 69, Lithuania 4, Cyprus 1, Belarus 1, Yemen 1	
– Form S 2	68
– Self-payers from EUz EU	20
– Contractual price	2

NEUROLOGICAL-NEUROSURGICAL PROGRAM

Number of other OR surgeries	180
- Of which deep brain stimulation 41 (22 primary implantations, 19 reimplantations), 2 implantations for self-payers from Serbia	
Number of admissions	941
Average treatment period	1.23 (in days)
Bed turn-out	203.47
Outpatient examinations	2,086
Consultations sent by mail	4,216

Number of patients treated by the gamma knife in individual years (yellow - following installation of the Perflexion model)



Changes / new events in the previous year

- In 2017, a total of 1,101 patients were treated by the gamma knife. In addition to high work commitment, a replacement of the sources of radiation in 2016 also contributed to this record-breaking number of treated patients, as it shortened periods of radiation by more than half. This enabled treating up to 6 non-complicated patients a day. The share of foreigners has been decreasing year by year (it is only stable for patients from Slovakia), but they still represent more than 8%. Only two foreign patients from outside the EU paid a contractual price for gamma knife treatment.
- Consultations were continuously provided to patients with extrapyramidal disorders by Prof. Evžen Růžička, MD, DrSc. and Prof. Robert Jech, MD, PhD in the outpatient unit for musculoskeletal disorders within the department. 2 Serbian patients paid contractual prices for deep brain stimulation for motoric disorders.
- The number of ophthalmology indications was similar to the previous year – 33 patients with ophthalmological disorders.
- In 2017, we offered further international radiosurgical courses, together with the Department of Medical Physics. In 2017, five courses were held with a total number of 14 participants who came from the following countries: Germany (6), United Kingdom (2), the Netherlands (2), the U.S.A. (1), Malaysia (1), Indonesia (1), Kazakhstan (1).
- In October we celebrated the 25th anniversary of gamma knife operation in the Czech Republic. A press conference was held and we also prepared an all-day educational seminar illustrating stereotactic neurosurgery activities in our at our Department.

Perspectives for the next year

- For further development of the Department, it is necessary to combine the replacement of the obsolete Siemens Symphony MRI with an upgrade of the gamma knife to the latest Icon model. This will enable us to instal a 3T MRI.
- We will continue organizing four-day educational courses for foreign participants and we have announced five terms for 2018.

Educational and other specialized activities

- In 2017, 8 physicians underwent a study visit in our Department.
- In the course of 2017, the gamma knife was visited by 191 registered visitors in the controlled area.
- 2 grant projects supported by the institution and 1 project supported by the Czech Grant Agency were carried out.
- We published 8 articles in foreign impact journals.

CARDIOVASCULAR PROGRAM



Department of Cardiology

Head of Department: Prof. Neužil Petr, MD, PhD, FESC

The clinical activities of the Department cover a wide range of preventive, diagnostic and therapeutic care provided to patients with diseases of the heart and blood vessels or who have an increased risk of these diseases. As in previous years, the Department continued to cover all individual specialized areas in 2017.

Multifunctional Catheterization Unit

The number of catheterization ablations has increased as in previous years. In 2017, our Department carried out 1,201 ablations, which is the highest number in the Czech Republic for several times already. So-called comprehensive interventions (ablations of atrial fibrillation, atrial and ventricular tachycardias) accounted for more than 70% of all ablations. Most cases of comprehensive ablations related to ablations of atrial fibrillation – the total of 659 procedures (of which 2/3 of ablations were due to paroxysmal form and 1/3 due to persisting or long-term persisting forms of atrial fibrillation). In 2017, the number of catheterization ablations due to ventricular tachycardia also had an increasing trend, with a total of 132 procedures.

The Department still routinely uses the Niobe II (Stereotaxis) remote magnetic navigation method for ablation. The laboratory is equipped with three types of electroanatomical 3D navigation systems the use of which significantly increases the efficiency and safety of catheterization ablations. We can perform ablations of “simpler” forms of atrial fibrillation using balloon methods (cryoablation, laser and radiofrequency ablations), the advantage of which is especially shortening of procedure time while maintaining treatment efficiency.

Within clinical studies in 2017 we participated in the development and verification of the efficiency and effectiveness of new mapping and ablation technologies, such as dipole density mapping (ACUTUS Medical), the next laser balloon generation (Cardiofocus, Heart Light), a balloon method using radiofrequency current (Biosense Webster, Apama), a robotic ultrasound contactless navigation and ablation (VytronUS), endocardial and epicardial direct-current ablation (in cooperation with a cardiac surgery team (Iowa Approach), and a completely innovative EPD 3D imaging system with a possibility of online ablation lesion evaluation.

CARDIOVASCULAR PROGRAM

In terms of the number of implanted pacemakers and defibrillators (ICD – implantable cardioverter defibrillator), the Department has been one of the largest centers in the Czech Republic and Europe over time. A total of 1,124 implantation procedures were performed in 2017. We specialize especially in implantations of defibrillators (541 procedures, i.e. an increase of 11% as compared to 2016) and cardiac resynchronization treatment (248 procedures, i.e. an increase of 9% as compared to 2016). We continue implantations of the so-called subcutaneous ICD and in 2017 we implanted 24 of them in total. Implants are also connected with procedures when stimulative or defibrillating electrodes need to be extracted. The total number of these procedures in 2017 was 90 (an increase of 10% as compared to 2016) with the rate of success reaching 98%.

Since 2012, the Department has been the world-leading center for implantation of leadless pacemakers. In 2017 we successfully implanted 27 of these unique devices.

Our electrophysiological laboratory closely cooperates with a newly established syncope and neurology outpatient unit in diagnosing cardiac arrhythmias, non-clarified disorders of consciousness or cryptogenic cerebral strokes. For these indications, an implantable Reveal LINQ cardiac monitor was implanted into 59 patients in 2017.

In 2017 we noted an increase in the number of catheterization left atrial appendage occlusions, when 60 procedures were performed in total. Our center participated in a number of Czech as well as international conferences and workshops. The most important include the Prague Ablation Workshop on Catheter Ablation and the AF Symposium (U.S.A.).

The experimental laboratory implementation project was carried out in the Institute of Physiology of the 1st Medical School, Charles University. Experiments with different types of cardiac support, new ablation technologies and treatment devices have been performed.

Intervention cardiology

A total of 3,486 catheterization interventions were performed, which represents another increase, of which 3,116 were diagnostic coronary angiographies and 853 percutaneous coronary interventions. The program of structural cardiac interventions is being further developed, including for patent foramen oval closure, atrial septal defect, pulmonary vein stenoses and closures of paravalvular leaks. **The total number of catheterizations of defects of the interatrial septum reached 60, making the Department one of the centers performing the highest number of these interventions.**



CARDIOVASCULAR PROGRAM

The transcatheter aortic valve implantation (TAVI) program also continued in 2017, with a total number of 34 procedures. We newly performed catheterization implantations in failing bio-prostheses both in the tricuspidal (the two procedures performed represent the highest number in the Czech Republic), and in the mitral positions. This program is highly complex with regard to both the scope of diagnostic preoperative examinations and interventions and the demanding multidisciplinary cooperation.

After the first catheterization implantation of the pulmonary valve was newly performed in 2015 in a patient with a complex congenital heart defect, we performed this procedure in 4 more patients in 2017. This has led to further development of the program for these interventions which will be an integral part of care for patients with complex congenital heart defects who have been systematically treated on a long-term basis in our Cardiac Center.

The development of percutaneous coronary interventions with different types of circulatory support continued and in cooperation with the angiology outpatient department, our Department routinely performs diagnostic examinations and interventions on peripheral arteries. A method of rotary atherectomy, which is currently used at present, has been newly introduced in the clinical practice.

The center is traditionally involved in the preparation of numerous professional programs and presentations at professional conferences and meetings in the Czech Republic.

For the first time in its history, our center co-organized a major and single national specialized conference held by the Czech Interventional Cardiology Association, including direct broadcast of several interventional procedures to the meeting location. As in the previous years, we participated in the organization of a closely specialized workshop in interventional cardiology imaging methods which was attended by more than 35 physicians from the Czech Republic.

Non-invasive cardiology

Within non-invasive cardiology, the number of transthoracic echo examinations shows a continuously increasing trend. The achieved result of 8,835 examinations is the best ever achieved ever and the situation is the same for gulf echo examination.

In 2017, the Department of Cardiology reached the highest number of admissions in its history, at 5,220.

CARDIOVASCULAR PROGRAM

Multifunctional Catheterization Unit

Ablations - total	1,201
Ablations according to arrhythmias:	
Atrial fibrillation	659
paroxysmal	436
persisting	168
long-term persisting	55
re-ablations	113
Atrial flutter	133
Atrial tachycardias	79
Non-selective RFA of AV node	48
Atrioventricular nodal reentry tachycardia (AVNRT)	119
Wolff-Parkinson-White syndrome (WPW syndrome)	31
Ventricular tachycardia	132
structural	64
non-structural	68
ICD (implantable cardioverter-defibrillators) - total	541
ICD: primo-implantation	324
ICD: exchange	217
CRTD	248
VVI ICD	122
DDD ICD	147
Subcutaneous ICD	24

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Pacemakers - total	583
Pacemakers: primo-implantation	391
Pacemakers: replacements	192
VVI pacemaker	128
DDD pacemaker	444
CRTD	11
Leadless pacemakers	27
Extraction procedures - total	90
Subcutaneous monitor implantations (Reveal)	59
Catheterization left atrial appendage occlusion	60

Non-invasive cardiology

General outpatient unit	15,444
Angiology outpatient unit	7,542
Stimulation outpatient unit	6,992
Anticoagulation outpatient unit	2,685
Transthoracic echocardiography	8,835
Esophageal echocardiography	1,185
Outpatient monitoring: Holter ECG + Loop monitor + Omron EKG + BP monitor + ECG card	2,361
ECG stress test (ergometry)	593
Tilt test	72
Outpatient electric cardioversion - total	665

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Coronary unit

Acute coronary syndrome	386
Extracorporeal membrane oxygenation (ECMO)	13
Length of stay (median)	2
Total mortality (in %)	4.59

Operational data

Total number of beds	52
Number of standard beds	30
Number of intermediary beds	4
Number of intensive beds	18
Number of physicians	40
General nursing staff	126
Number of outpatient interventions	46,172
Number of admissions	5,220
Number of treatment days	13,870
Bed occupancy rate (in %)	76.23
Average treatment period (in days)	2.66

Department of Vascular Surgery

Head of Department: Prof. Petr Štádler, MD, PhD

Activities of the Department

- Comprehensive surgical treatment of diseases of the vascular system, primarily the narrowing or occlusion of blood vessels caused by atherosclerotic changes or dilation (aneurysms) and also injuries of the arteriovenous system except for the coronary arteries, the ascending aorta and aortic arch. Focus on classical surgery in the region of the thoracoabdominal aorta and on new trends and techniques in vascular surgery (minimally invasive approaches, endovascular treatment, robot-assisted surgery, and laparoscopic surgery)
- Since the beginning of 2009, the Department has also been performing minimally invasive operations on varicose veins using a radiofrequency method that reduces postoperative pain and facilitates early return to daily routine activities
- Referential clinic for surgical treatment of the thoracoabdominal aorta, robot-assisted and laparoscopy vascular surgeries
- Outpatient care and follow-up of patients undergoing vascular surgery and patients indicated for conservative treatment.

Organizational units of the Department

Outpatient examinations	6 examination rooms
Reception	1
Standard inpatient unit (B)	17 beds
Standard inpatient septic unit (A)	17 beds
Intermediary care unit	13 beds
Intensive care unit (6th floor)	5 beds
Intensive care unit (2th floor)	7 beds

There are 2 operating rooms available daily, and in addition, a hybrid multidisciplinary operating room and a robot-assisted operating room are available once a week. An X-ray operating room is also used in cooperation with a radiologist for some acute procedures. The Department provides continuous operation for urgent vascular surgery procedures and above-regional service for difficult aorta surgeries.

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Basic data

Number of physicians	17
Number of nursing staff	95
Number of auxiliary nursing staff	24
Number of paramedic staff	1
Number technical and administrative staff	5
Number of standard beds	34
Number of semi-intensive beds	13
Number of intensive beds	12
Number of admissions	2,532
Number of hospitalized patients	1,879
Bed occupancy rate (in %)	72
Average treatment period (in days)	7
Number of treatment days	15,738
Mortality (in %)	1.3

Number of interventions

Surgical interventions - total	1,515
Thoracic aneurysm - classical	20
Thoracic aneurysm - stent graft	33
Abdominal aneurysm - classical	72
Abdominal aneurysm - stent graft	57

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Aneurysm of pelvic arteries	1
Aneurysm of popliteal artery	10
Aortofemoral reconstructions	58
Pelvic reconstructions	20
Extra-anatomic reconstructions	38
Treatment of infections of vascular prostheses	19
Aortic arch branch surgeries - total	177
Of which: Carotids - endarterectomy	162
Glomus tumor	3
Carotid aneurysm	0
Bypass or implantation of carotid/subclavian	5
Bypass from ascending aorta (sternotomy)	1
Femoropopliteal proximal reconstruction	59
Reconstruction of arteries in the groin area	92
Crural reconstructions - total	155
Varicose vein surgeries	417
Of which: Classical	346
Radiofrequency	71
AV shunts	42
Transplantation of vascular allografts	7
Robot-assisted surgeries - total	34
Of which: Abdominal aortic aneurysm	16
Aortobifemoral bypass	12
Aortofemoral unilateral bypass	4
Endoleak	0
Deliberation of the celiac artery	0

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Splenic artery aneurysm	1
Laparoscopy surgeries:	10
Of which: Iliofemoral	3
Aortobifemoral	4
Aortofemoral	3
Thoracoscopic thoracic sympathectomy	8
Lumbar sympathectomy by laparoscopic method	3
Endoscopic sampling of vena saphena magna for vascular reconstructions	2
Vascular intervention in collaboration with radiologists	426
Number of outpatient examinations / number of examined patients	14,473 / 8,171

Department operation in the previous year

Since January 2008, the Department of Vascular Surgery has been managed by Prof. Petr Štádl, MD, Ph.D., who is also a member of the external educational staff of the 1st School of Medicine, Charles University, with which the Department actively cooperates. Since 2015, the Department has participated in the training of students from the 2nd School of Medicine, Charles University, managed by Petr Šedivý, MD, Ph.D.

In 2017, the Department routinely performed comprehensive diagnostics and surgical treatment of diseases of the vascular system, primarily the narrowing or occlusion of blood vessels caused by atherosclerotic changes, and also of injuries to the arteriovenous system except for the coronary arteries, the ascending aorta and aortic arch that are traditionally the responsibility of cardiac surgery. The range of surgical interventions included operations on branches of the aortic arch, thoracic and abdominal aorta, including aneurysms (the Department of Vascular Surgery has the highest number of aortic operations in the Czech Republic), reconstruction of arteries supplying abdominal and retroperitoneal organs, operations on arteries supplying the limbs, as well as varicose veins, and a relatively unique transplantation of vascular grafts to deal with the infection of vascular prostheses. One of the largest groups of patients includes those with ischemic disease of the lower limbs and with narrowing of the arteries supplying blood to the brain. Minimally invasive approaches are used in thoracoscopic or laparoscopic lumbar sympathectomy procedures, endoscopic operations of varicose veins, endoscopic sampling of veins for vascular reconstructions and operations of the abdominal aorta through reduced surgical approaches, the so-called mini-laparotomies, and in particular robot-assisted and laparoscopic vascular surgery (the number of robot-assisted operations has been successfully increased, thanks to improved communication with some health insurance companies).



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The Department of Vascular Surgery continues to retain its unique position of a world leader in robot-assisted vascular surgery and a national leader in thoracoabdominal aortic surgery. The number of these types of procedures increased in 2017. Prof. Štádlér has been repeatedly elected as chair of the Czech Society for Cardiovascular Surgery (CSCS).

Another important area vascular surgery deals with is endovascular surgery. It especially focuses on implanting stent grafts for treating abdominal or thoracic aortic aneurysms. Implantation of stent grafts, perioperative angiography and intraoperative angioplasty are routinely carried out in collaboration with the Department of Radiodiagnostics at Na Homolce Hospital. A specialized team of vascular surgeons and radiologists (P. Šedivý, MD, PhD, K. El Samman, MD, H. Přindišová, MD, A. Šnajdrová, MD) has been established for this purpose and successfully continues to perform these activities. El Samann, MD, successfully passed the postgraduate certificate in vascular interventions. Both vascular surgeons who are members of the endovascular team now have this specializatio certification.

The Department also performs complicated interventions to treat infections of vascular prostheses by transplantation of vascular allografts. Together with the Institute of Clinical and Experimental Medicine, the General Teaching Hospital in Prague and the Tissue Bank of the General Teaching Hospital in Hradec Králové, the NHH Department of Vascular Surgery participates in the program of vascular graft cryopreservation. A number of centers in the Czech Republic take advantage of the Department as a consultancy center for the treatment of a range of serious vascular problems.

Since 2016 our Department has had a hybrid multidisciplinary operating room available at least once a week, where robot-assisted surgeries, implantations of stent grafts and hybrid procedures are carried out.

In 2017 a bovine pericardial prosthesis (xenograft), which is subject to extra approval by the health insurance company, was used for the first time in five cases.

As for personnel matters, two physicians joined the Department and one physician left for a different vascular center. A new head nurse took office on July 1, 2017.

Outlook for 2018

The Department will also provide comprehensive diagnostics and the complete range of surgical treatment of arterial and venous diseases focused on new trends in 2018. We plan to cooperate with the Department of Cardiac Surgery in addressing vascular conditions falling into both these specializations. Thoracoabdominal aortic surgeries will be developed. Minimally invasive approaches in operations with a focus on robot-assisted and

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endovascular surgery will be further developed. Since January 2018 robot-assisted vascular surgeries have been on the official list of procedures and it will not be necessary to ask approval for every surgery of this type.

The 3D laparoscopy tower will be used for furthering another type of minimally invasive surgery. Successful cooperation with the Department of Radiology in the field of endovascular surgery will continue as agreed with its head Prof. Vymazal MD, D.Sc. In addition, the Department of Vascular Surgery will continue to deal with infections of vascular prostheses, the incidence of which grows nationwide. These interventions are economically highly demanding and the Department still does not have a septic operating room for this purpose. The focus of the Department on the latest trends in the field of minimally invasive approaches in arteriovenous surgery is also of great importance.

According to the latest information, international training activities in the area of robot-assisted vascular surgery will continue in 2018, this time in cooperation with the Nordic countries. At the same time, the vascular surgery unit will be involved in providing training in laparoscopic vascular surgery to physicians as part of the Aesculap Academy program.

Educational and other specialized activities

- The Department is also involved in undergraduate training of students of the School of Medicine and postgraduate studies of physicians to obtain a postgraduate certificate in vascular surgery, as well as of physicians whose specialization requires a study visit to in the Department of Vascular Surgery.
- Head of the Department Prof. P. Štádler MD, Ph.D. is an external teacher and a member of the Board for Postgraduate Certificate in Vascular Surgery at the 1st School of Medicine, Charles University in Prague. He also works as a lecturer in robot-assisted vascular surgery at the European Institute of Telesurgery in Strasbourg and as a lecturer in Intuitive Surgical in the U.S.A. Prof. Štádler also holds the post of the president of sub-committee for robot-assisted vascular surgery MIRA in Los Angeles, U.S.A., is deputy president of a committee of the Czech Society for Cardiovascular Surgery and a member of the accreditation committee of the Czech Ministry of Health for the specialty of vascular surgery. He is also the founding member of the International Endovascular & Laparoscopic Society, a member of ISMICS (International Society for Minimally Invasive Cardiothoracic Surgery) and a reviewer of the journal Surgical Laparoscopy Endoscopy & Percutaneous Techniques.
- Petr Šedivý, MD, PhD participates in the teaching of medical students of the 2nd Medical School, Charles University in Prague.
- The Department is also involved in undergraduate training of students of the 2nd year of the 3rd School of Medicine, Charles University in Prague, in the "general nurse" specialization.
- The Department will most probably continue to organize courses in robot-assisted surgery, vascular surgery and surgery of varicose veins for both domestic and foreign physicians.

Department of Cardiac Surgery

Head of Department: Ivo Skalský, MD, PhD, MBA

Activities of the Department

- Comprehensive surgical treatment of heart and intrathoracic major blood vessels
- Follow-up of selected groups of patients in outpatient unit before and after cardiac surgery

Organizational units of the Department

Outpatient examinations	3 examination rooms
Standard inpatient unit	14 beds
Intermediary care unit	10 beds
Postoperative and reanimation care unit	10 beds

2 classic cardiac surgery operating rooms are available for 5 working days a week. Moreover, surgeries are performed in the hybrid and robot-assisted operating rooms, one day a week at each. One operating room is open 24/7 for urgent procedures.

Basic data

Number of physicians	19
Number of nursing staff	98
Number of auxiliary nursing staff	21
Number technical and administrative staff	1
Number of standard beds	14

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Number of semi-intensive beds	10
Number of reanimation beds	10
Total number of beds	34
Number of hospitalized patients	902
Bed occupancy rate (in %)	89.84
Average treatment period (in days)	11.03
Number of treatment days	9,951

Number of interventions and mortality

Surgical interventions - total	790
Isolated aortocoronary reconstructions	208
Combined procedures (valve, bypass, aorta)	295
Cardiac valve replacement/valvuloplasty	487
Isolated operations on ascending aorta and aortic arch	10
Others (myxoma, pericardiectomy, pacemaker extraction)	32
Epicardial stimulation lead implants	8
MAZE operations (combined with ACB and valvular surgery)	148
Thoracic aorta operations - total (combined with other interventions)	56
Robot-assisted interventions	40
Acute and emergency interventions	158
Planned surgeries	632
30-day mortality (in %)	2.53 (20/790)

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30-day mortality in acute interventions (in %)	1.64
30-day mortality in elective interventions (in %)	0.89
Number of outpatient examinations (appointments)	10,503

Changes / new events in the previous year

- A total of 790 cardiac surgery procedures were performed in 2016. This was a lower number than planned, and was related to a bed capacity limitation due to a lack of general nursing staff, especially of nurses.
- A success of the previous year is full deployment of robot-assisted surgery in the spectrum of cardiac surgery interventions. A total of 40 interventions were carried out, including valve reconstructions, atrial septal defect closures, sampling of arterial grafts for myocardial revascularization, and arrhythmology interventions.
- In 2017, a high number of valve interventions continued as compared to coronary vein revascularizations. Their share in the total number of surgeries reached 61.6%. They include both isolated procedures on a single valve, and combined with other valves or other interventions.
- We have noted an increase in combined interventions, whose number reached almost 40% of all procedures.
- A fifth of surgeries related to acute and emergency interventions which are necessary for a patient on one hand, but on the other, more risky in general, financially highly demanding and have a direct impact on total surgery results.
- The total annual mortality of 2.53% is considerably lower compared to the predicted mortality calculated according to Euroscore II, an international scoring system, which is 6.17%. Acute interventions contributed to the total mortality by two thirds.
- In the field of valve surgeries, there is still a trend of performing reconstructive surgery, rather than valve replacement. The share of reconstructive surgeries, especially of mitral valves, reached about 70%. Thanks to these results, we have been a leading cardiac surgery center in the Czech Republic for a long time. In this regard, we can emphasize that approximately 2/3 of mono-procedures on mitral valve were performed using a minimally invasive approach.
- Of the spectrum of interventions performed last year, surgeries of congenital heart defects should be mentioned again, as they represented approximately 10% of all procedures last year. This specific program with excellent results which has been systematically run and developed in our Department in cooperation with the Children's Cardiac Center of the Teaching Hospital in Motol, is not only unique in our country, but also in Europe.
- In the scientific area, we cannot omit the involvement of our Department in several clinical studies performed in cooperation with international institutions. The previously reached promising results mean a great perspective especially for our patients.

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- We continue in cooperation with associated workplaces for whose patients we offer a top cardiac surgery background both for elective and acute interventions. In particular, they include hospitals in Karlovy Vary, Liberec, Příbram and Kladno.
- Intra-hospital interdisciplinary cooperation, especially with the Departments of Cardiology and Vascular Surgery, has continued to our high satisfaction and we believe this trend will be maintained in the future as well.

Perspectives for development in the next year

- In 2018 we plan to perform 800 surgeries. We presume the range of procedures will be similar to the previous year.
- We will further develop three systematic programs which form our foundation stones. They are: the treatment program for aortic diseases (we will cooperate with Vascular Surgery and Radiology), the program for surgical treatment of valve disorders and the program for congenital heart defect treatment in adulthood (we will further cooperate with the Children's Cardiac Center of the Teaching Hospital in Motol).
- In the field of minimally invasive procedures, we would like to remain a leading center in the Czech Republic.
- The implementation and development of robot-assisted surgery is beneficial especially to our patients. Reducing the invasive character of interventions shortens the duration of a stay in hospital and increases the patient's comfort, which consequently means improvement in the quality of the care provided.



Department of Cardiac Anesthesiology

Head of Department: Pavel Jehlička, MD, MBA

Activities of the Department

The Department covers two basic areas, namely anesthesia care for cardiac surgery and cardiology and intensive care for the cardiac surgery post-operative unit.

Anesthesia care

We provide anesthesia care for patients undergoing either cardiac surgery, with or without extracorporeal circulation, or cardiac robot-assisted surgery with a minimally invasive approach. For cardiology patients, the Department ensures anesthesia for complicated heart mapping in arrhythmology, anesthesia for the extraction of pacemaking systems, and for electrical cardioversions. In 2016, a hybrid multidisciplinary OR started operation.

Intensive care

In the field of intensive care, the Department is responsible for running the cardiac surgery postoperative unit and also closely cooperates with the cardiac surgery intermediate care unit. Within our Cardiac Center, it supports other units of intensive cardiology care by providing consultations. Together with the Department of Cardiology and the Department of Biomedical Engineering, we participate in the program of extracorporeal support of circulation for patients in cardiogenic shock.

In 2004, the physicians of the Department of Cardiac Anesthesiology were the first to introduce extracorporeal pulmonary support (the Novalung artificial lung) in the Czech Republic in a patient with a severe pulmonary failure that could not be managed by standard methods. As the only facility in the Czech Republic, the Department ensures anesthesia in robot-assisted cardiac surgeries and anesthesia for operations on adult patients with congenital heart defects.

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Basic data

Number of physicians	9
Number of nursing staff	8

Administered anesthesia for:

Cardiac surgeries	848
Cardiological interventions	680
Interventions exceeding 2 hours	790
Interventions exceeding 6 hours	187

PROGRAM OF GENERAL MEDICAL CARE

Department of Internal Medicine

Head of Department: Viera Křížová, MD (from 10. 10. 2017, previously Milan Čech, MD)

Activities of the Department

The Department provides essential clinical back-up for the key areas of the Cardiovascular Program and Neuroprogram at Na Homolce Hospital, to the inpatient ward and to the Polyclinics, Department of Gastroenterology and Center for Pulmonary Endoscopy. The majority of hospitalized patients are diagnostic admissions from all internal medicine disciplines, i.e. gastrointestinal, respiratory, cardiac, diabetic and infectious and autoimmune diseases.

The Department also treats patients from other regions. The Department provides specific care for patients with short bowel syndrome and ensures their long-term parental nutrition, which includes treatment of any related complications. Specific interventions are performed under ultrasound guidance (central catheter introduction, diagnostic/evacuation puncture, etc.).

Intensive care unit

The Unit has a capacity of 8 beds with the possibility of up to 3 beds with ventilators. It also provides comprehensive intensive care for internally polymorbid patients, often taking over patients with complicated infections for final treatment from other ICUs at Na Homolce hospital. Most patients are transferred to the Department of Internal Medicine for final treatment from surgical and core programs of the hospital: some of them are referred by the acute internal medicine outpatient unit and from other hospitals

Inpatient unit

The standard inpatient unit provides comprehensive internal medical care to a whole spectrum of patients, both patients with acute internal diseases referred by the acute internal medicine outpatient unit, and patients with planned diagnostic and therapeutic treatments. Patients with internal diseases from other departments of the hospital are admitted for treatment (from all Departments, patients with oncological treatment complications and from the chronic hemodialysis program). Furthermore, patients after invasive procedures (gastroenterology, the Center of Pulmonary Endoscopy, interventional radiology) are admitted for observation. The number of patients admitted due to oncological treatment complications has increased, and because the Department of Oncology has no inpatient unit, the Department of Internal Medicine has to find beds in this situation.



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Generally, the care is of an above-regional character. The bed capacity is low. We also provide inpatient care to patients of the Homolka Premium Care Program and to relatives of hospital staff. The average hospitalization duration is continually increasing, usually due to long-term parenteral administration of antibiotic treatment and the treatment of complicated states resulting from long-term physiotherapeutic care. This reduces the availability of free beds and limits the total number of admissions despite the maximum bed occupancy, which is the highest in the entire hospital.

Internal medicine outpatient unit

Physicians of individual specializations work in specialized inpatient units, closely cooperating and mutually well substitutable both in the outpatient and inpatient units. Part of the outpatient unit is a pulmonary, gastroenterology and metabolic unit (focused on home par/enteral nutrition, diabetology, endocrinology, lipid consultancy). The obesitology inpatient unit was cancelled (due to low efficiency and in relation to the cancellation of surgeries in the field of obesitology).

Acute internal medicine outpatient unit

In particular, the Department provides treatment and examinations to patients with acute non-surgical problems who have no special referral for a particular specialized examination. Other activities include outpatient infusion therapy and planned diagnostic and therapeutic interventions offered to cover the needs of the Internal Medicine Department.

The acute internal medicine outpatient unit is the most fully used outpatient unit of the Department; the number of treated patients has been continually growing. In the past year, a total of 6,465 treatments were performed (500 - 600 treatments per month on average). An increase in the number of treated patients can also be expected in the future due to the fact that the outpatient unit partially supplements the lack of an emergency department and that care accessibility in other facilities has been deteriorating. Should the number of patients further increase, it will be necessary to increase the staff of the outpatient unit and extend its areas.

Gastroenterology unit

The Unit is the showcase of the Internal Medicine Department. It provides excellent gastroenterology care using a wide range of endoscopic methods. It performs common endoscopy of the upper and lower gastrointestinal tracts, as well as a highly specialized ERCP examination of the bile ducts. It has achieved excellent results in the use of endosonographic techniques, including unique interventions for which patients from the entire country are referred. The care is provided in an inadequate and constrained space.

PROGRAM OF GENERAL MEDICAL CARE

The previous year witnessed a partial improvement in instrumental equipment due to single investments, but unfortunately, the spatial arrangement of the Gastroenterology Unit is still inadequate in terms of its importance for the hospital and its position within the Prague and frequently national healthcare system. Therefore, it is vital to continue investing both in technical equipment, and especially spatial arrangements, especially considering the findings of the JCI accreditation committee that warned of the unsatisfactory arrangements of the operations on its last visit. Under the current spatial arrangement, the Unit will not meet the hygiene conditions at the next JCI accreditation of the Unit, and the accreditation will not be granted.

Center for Pulmonary Endoscopy

The Center for Pulmonary Endoscopy and related specialized outpatient units offer comprehensive bronchologic diagnostics, including autofluorescent bronchoscopy, NBI (Narrow Band Imaging) and endobronchial ultrasonography. The combination of new diagnostic methods with the existing ones, such as PET-CT, provides an exceptional opportunity for early diagnosis and staging of bronchogenic carcinoma followed by pneumo-oncological treatment. The capacity and the use of bronchologic care has been steadily growing, inter alia due to active cooperation with field pneumologists and other hospitals.

Educational activities

The Department is accredited by the Czech Medical Chamber to train and issue functional licenses in internal medicine, gastroenterology, general medicine, abdominal ultrasonography (F008), endoscopic ultrasonography (F004), artificial nutrition, and metabolic care (F016).

Postgraduate and pre-certification study visits of younger colleagues from other disciplines of Na Homolce Hospital are annually held in the Department. For a long time, the Department has organized postgraduate courses for physicians preparing for general medicine postgraduate examinations, in cooperation with the Institute of Postgraduate Healthcare Education. To a lesser extent, pre-graduate students of the 1st, 2nd and 3rd Schools of Medicine, Charles University, come within compulsory practice.

Basic data

Number of physicians	24 full-time + 8 agreements to perform work
Number of nursing staff	47
Number of paramedical staff	9

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Number of beds in the standard unit	21
Number of beds in ICU	8

Total inpatient part performance:

Bed occupancy rate in %	89.17
Average treatment period per whole Department	7.48 (last year 7.03, 6.22 two years ago)
Total number of treatment days	9,285 (last year 9,043)
Admissions	1,242 (last year 1,287)

Department of Clinical Oncology

Main physician: Martin Šafanda, MD, PhD

Activities of the Department

The Department of Clinical Oncology focuses on the treatment of malignant tumors in adult patients. The oncological program consists of 4 key areas:

I. Gastroenterology program:

- Tumors of small and large intestine
- Stomach and esophageal tumors
- Pancreatic tumors
- Liver and bile duct tumors

II. Breast cancer program:

- Breast tumors

III. Urogynecological program:

- Prostate tumors
- Renal tumors
- Urinary bladder tumors
- Ovarian tumors

IV. Pneumo-oncological program:

- Pulmonary and bronchial tumors

PROGRAM OF GENERAL MEDICAL CARE

The Department of Clinical Oncology is involved in close cooperation with the Comprehensive Oncology Center of the Teaching Hospital in Motol. Radiation therapy is carried out in the cooperating facility. In the absence of an inpatient ward, acute care, including ICU care, is covered by the Department of Internal Medicine at Na Homolce Hospital. Symptomatic treatment of terminal stages is provided in cooperation with the Institute of Pneumology and Oncology in Pleš. Since 2009, the Department has been involved in multicenter Phase II and III randomized studies. Due to the development of tumor epidemiology in the Czech population, an annual growth in cases of 5-7% may also be expected in the future.

Basic data

Number of physicians	3
Number of general nursing staff	5
Number of newly admitted patients	604
Number of outpatient examinations	14,727
Number of chemotherapies	9,053

Department of General Surgery

Head of Department: Jaroslav Verner, MD (from 10. 10. 2017, previously Stanislav Černožský, MD)

Activities of the Department

The Department carries out a clinical program for general medical care at the hospital, including both outpatient and inpatient diagnostic and therapeutic activities (including ICU) in the field of general surgery, orthopedic surgery and urology. The Department of General Surgery treats both domestic and foreign patients, provides consulting services for the hospital and organizes undergraduate and postgraduate courses for physicians.

General surgery program:

- Abdominal surgery (gastrointestinal tract surgery), thoracic surgery, thyroid surgery, hernia surgery, varicose vein surgery, breast surgery, and other surgical procedures
- Minimally invasive surgery in almost all fields of laparoscopic interventions (including hernia, appendectomy, cholecystectomy, diaphragmatic hernia, laparoscopic surgery of the large intestine)
- Oncological surgery in cooperation with the Gastroenterology unit of the Department of Internal Medicine and the Department of Oncology, particularly oncological surgery of the gastrointestinal tract, lungs and breast
- Extensive outpatient surgical activities for both on-duty and specialized consultancy units
- Minor outpatient interventions
- Ostomy consultancy - care of ostomy patients
- Robot-assisted interventions on the rectum

Orthopedic program:

- Total replacement of hip and knee joints, including reimplantations, replacement of the shoulder, ankle and the first metatarsophalangeal joints (using the Swanson endoprosthesis)
- Osteotomy with the Stoffel method of metal-plate fixation in surgery of the foot - hallux rigidus; extended range of orthopedic and minimally invasive surgical interventions



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- Extensive outpatient orthopedic treatment
- Arthroscopy (mainly of knee and shoulder joints)

Urology program:

- Open, endoscopic and robot-assisted urinary tract surgery
- Urology surgical oncology
- Kidney surgery
- Minimally invasive laparoscopic, cystoscopic and ureterorenoscopic surgical procedures
- Ultrasound-guided puncture of the retroperitoneum
- Comprehensive diagnostics and treatment of erectile dysfunctions
- A wide range of outpatient orthopedic treatments
- Radiological procedures

Organizational units of the Department

Inpatient unit:

- Diagnostic, preoperative and postoperative care in all specializations
- Care of patients admitted to intensive and standard beds
- Two other units in addition to surgery
- Intensive care unit - A + B units

Outpatient unit:

- On-duty outpatient surgery: Provides daily surgical care for acute patients, including wound dressing changes in patients from other departments of the hospital. Also provides acute surgical care.
- Surgical consulting clinic: Consulting clinic for surgical diseases focuses on abdominal and thoracic surgery, coloprocto-surgery, surgical oncology, diagnostics, postoperative monitoring, follow-up, assessment and ordering of planned operations.

PROGRAM OF GENERAL MEDICAL CARE

- Thoracic surgical consulting clinic: In cooperation with the respiratory consulting clinic, provides treatment, surgical procedures and follow-up of cancer treatment in patients with respiratory and thoracic diseases.
- Mammology consulting clinic: Provides examinations, comprehensive care, diagnostic services, preoperative evaluation and follow-up care to patients with breast disease, in close cooperation with the Department of Radiology, oncologists and pathologists.
- Orthopedic outpatient unit: Provides diagnosing, treatment and preoperative assessment of trauma patients with musculoskeletal diseases. Also provides consultancy services to other departments of the hospital.
- Urology outpatient unit: Provides care to urological patients, performs diagnostics, including ultrasound and outpatient treatment. The Department also provides preoperative assessment, postoperative monitoring, and comprehensive diagnostics and treatment of erectile dysfunction and a number of outpatient diagnostic and therapeutic procedures (cystoscopy, urethra probing for other departments, etc.).
- Outpatient unit for minor surgical procedures: Performs minor outpatient surgical procedures under local anesthesia at the request of general practitioners and the hospital's Department of Dermatology, and on patients from the surgical consulting clinic and on-duty surgery.
- Ostomy unit (under separate management): Provides comprehensive care (theoretic, pre-admission, preoperative, postoperative and follow-up) and education to ostomy patients. Identification and management of ostomy complications, peristomal skin and atherotinal drainage. Management and drainage of all type of ostomies and complications, knowledge of all types of ostomy devices and their application.

Operating rooms:

- 1 "super-sterile" OR for orthopedic surgery;
- 2 operating rooms for other surgeries, both open and laparoscopic;
- Robotic operating room with Da Vinci Surgical System (used twice a week)
- OR for urologic surgery

Operational data

Total number of physicians	26
Number of surgeons	16
Number of urologists	5
Number of orthopedic surgeons	4
Number of general nursing staff	58

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Number of auxiliary nursing staff	13
Number of assistants	2
Total number of beds	26
Number of standard beds	16
Number of intensive beds	5
Number of semi-intensive beds	5
Bed occupancy rate (in %)	106.86
Average treatment period (in days)	3.47
Number of treatment days	9,305
Number of hospitalized patients	2,680
Number of paramedical staff	2

Number of interventions

Surgery	1,483
Urological	547
Orthopedics	530
Minor surgical procedures	487
Total	3,047

Number of outpatient interventions

Surgery	21,478
Orthopedics	14,272
Urological	9,035

PROGRAM OF GENERAL MEDICAL CARE

Clinical oncology	425
Total	44,785

Number of consultancy examinations

Surgery	905
Orthopedics	121
Urological	208
Total	1,214

Changes / new events in the previous year

- **Technical equipment:** Reconstruction of the sanitary filter and facilities for personnel in operating rooms in the 4th floor has been carried out. A new laparoscopic set has been purchased and put into service and the existing laparoscopic set has been upgraded. An ultrasound scalpel for surgical and urological interventions has been purchased. A new operating table for urological X-ray surgeries has been purchased for the OR on the 7th floor. Laparoscopic and surgical instruments have been partly renewed. An electro-surgical coagulation unit has been purchased. A new oscillating saw and reamer have been purchased. Printers and computer displays have been partly replaced with new ones.
- **Orthopedics:** Routine use of the orthopedics navigation system in the surgery of large joints and routine arthroscopic surgery (in particular, knee joint treatments and cruciate ligament-plasty), routine hallux surgery. The range of procedures has not been extended.
- **Surgery:** A multidisciplinary approach has been standardized (departments of surgery, oncology, X-ray, pathology) in patients with malignant alimentary tract diseases. The number of laparoscopic interventions has increased thanks to the new laparoscopic unit. We routinely performed procedures for anal prolapses and hemorrhoids using the Long method (PPH). We have further developed laparoscopic colorectal and gastrointestinal surgery. Robot-assisted interventions were again permitted in the Department.
- **Urology:** Endoscopic ureterotomy is used as a routine method, laparoscopic procedures have been standardized in renal surgeries (pyeloplasty), routine ureterorenoscopy, routinely performed robot-assisted surgeries, in particular radical prostatectomy, pyeloplasty, kidney resection.

Evaluation of clinical activities

- The Department concentrates on the comprehensive development of general surgery, orthopedics and urology, with a focus on elective interventions, and plans the further development of laparoscopic procedures and thoracoscopic interventions in thoracic surgery.
- Increased cooperation is being developed with the Department of Internal Medicine, Radiology and Oncology, as well as with other departments of the hospital.
- Operating rooms are used for surgical treatment of the most severe surgical conditions (including acute interventions).
- The Department was actively involved in the development of recommended accreditation standards and optimization of postoperative pain management.
- Patient satisfaction was continuously assessed by the Department and the outputs were used for further improvements. An increased emphasis was put on maintaining the hygiene standard from the Department to the ORs, the condition has been continuously monitored in cooperation with the microbiological department and the team responsible for infection control; no increase was recorded in the incidence of complications or nosocomial infections.
- The Department has successfully satisfied conditions for ICU accreditation.

Perspectives for the next year

- The most important event in 2018 should be an overall reconstruction of the operating track on the 4th floor.
- Social facilities in rooms and above-standard rooms should be refurbished in the inpatient unit.
- Due to a significant increase in the number of oncological patients in the Czech Republic, particularly in the colorectal field, the Department's activities will focus more on the development of the latest surgical procedures using minimally invasive approaches – laparoscopic as well as robot-assisted – within comprehensive therapy. We will further develop radiofrequency ablations to treat liver metastases and we will extend methods of radical lymphadenectomy. Patients indicated for liver resection will continue to be referred to specialized centers.
- Lung surgery will be further developed.
- In the field of thoracic surgery, the Department will continue to cooperate with the 1st Surgical Clinic of the General Teaching Hospital.
- Increased efforts will concentrate physician education through internal seminars in the Department.
- The information system of the Department of Surgery will be further developed in coordination with the hospital information system.
- Cooperation with the Rehabilitation Department in orthopedic patients is planned.

PROGRAM OF GENERAL MEDICAL CARE

Educational and teaching activities

- The Department organized an undergraduate study visit for medical students (4th and 5th year of study) from the 1st, 2nd and 3rd Medical School, Charles University.
- Within postgraduate studies, physicians from other departments of our hospital completed study visits for Postgraduate Certificates.
- We participated in all-hospital seminars and regular common indication seminars together with oncologists and common clinical-pathological seminars with pathologists.
- The general nursing staff from the entire Department of Surgery participated actively and passively in a number of training and lectures necessary to improve their professional knowledge and skills. Two nurses finished their ARIP studies, 3 nurses are continuing their studies, 2 nurses are studying at the Nursing School (pregraduate study).
- We focused on providing training to nursing staff in the area of ostomy to ensure ostomy care for our patients. Thus, we have 3 ostomy nurses in total who provide consulting in the area of ostomy patient care for the entire hospital.

Specialized activities and membership of professional associations

Physicians from the Department participated actively in several domestic and international congresses and workshops. Emphasis was put on minimally invasive surgical approaches and robot-assisted methods in surgery and urology. Our physicians are also members of a number of professional societies, such as:

- The Czech Medical Association of J. E. Purkyně
- The Czech Society of Hepatobiliary Surgery
- The Czech Surgical Society
- The Czech Society for Endoscopy
- The Endoscopic and Minimally Invasive Surgery Section of the Czech Surgical Society
- The Czech Society of Coloproctology
- The Czech Society of Gastroenterology
- The Czech Orthopedic Society
- The Thoracic Surgery Section of the Czech Society for Pneumology
- The Czech Transplant Society
- The Czech Association of Urology
- The European Association of Urology
- The Czech Society for Robot-Assisted Surgery of the Czech Medical Association of J. E. Purkyně

Department of Gynecology and Minimally Invasive Therapy

Head of Department: Petr Popelka, MD

The activity of the Department focuses on the diagnosing and surgical treatment of gynecological diseases, with emphasis on minimally invasive approaches. The complete range of pelvic surgery concentrated on three clinical programs in 2017: urogynecological programs, comprehensive treatment of endometriosis, and general gynecological surgery. The Department has a specialized center for each program.

Urogynecological program covers diagnostics, surgical and conservative treatment of incontinence and pelvic floor disorders. Surgical procedures include the latest trends using special reticulate implants (nets) and put emphasis on the comprehensive treatment of a given problem while observing the rules of minimally invasive interventions. In total, 290 female patients with the above problems were operated on of which 52 interventions were performed with the use of implants.

Program for comprehensive diagnostics and endometriosis surgery offers comprehensive treatment to patients from the Czech Republic, including radical laparoscopic surgery and subsequent hormonal therapy with final verification of the outcome. The Department of Gynecology of Na Homolce Hospital is one of the most experienced centers in the Czech Republic in performing radical operations of retroperitoneal endometriosis. In 2017, the Department carried out 102 interventions, of which 12 interventions were radical surgeries for infiltrative retroperitoneal endometriosis.

General gynecological surgery deals with the surgical treatment of infertility, myomatosis, adnexal tumors and cysts, problems with postoperative adhesions, chronic pelvic pain, inflammations and congenital development disorders. Hysteroscopy operations include diagnostic and surgical endoscopy of the uterine cavity.

In 2017 a clinical study started to verify the feasibility of a newly developed robot-assisted system of the Israeli company Memic for vaginal surgeries. Six female patients have been registered for the study and two early terminated surgeries have been performed.

in 2017, 1,260 female patients were admitted for treatment to the Department.

The total number of surgical interventions in 2017 amounted to 1,247 surgeries, of which 94% were performed using minimally invasive methods.

PROGRAM OF GENERAL MEDICAL CARE

Basic data

Number of beds	14
- standard	10
- intensive	4
Number of physicians	8
Number of nursing staff	24
Number of outpatient interventions	17,948
Number of admissions	1,260
Number of treatment days	3,131
Number of interventions	1,247
Bed occupancy rate (in %)	68.8
Average treatment period (in days)	2.48

Department of ENT / Head and Neck Surgery

Head of Department: Petr Jiráček, MD

Activities of the Department

The Department of ENT / Head and Neck Surgery specializes in diagnostics and conservative and surgical treatment of ear, nose and throat diseases.

Similarly to in previous years, surgical procedures carried out in 2017 covered a whole range of head and neck surgery – surgeries of the nose and paranasal cavities (mostly as endoscopic interventions), comprehensive surgery of the thyroid and parathyroid glands, microsurgery of the vocal folds and larynx, cophosurgical interventions (ear surgeries), interventions to treat sleep apnea syndrome and rhonchopathy, as well as corrective surgeries in the area of the head and neck, operations on the soft tissues of the head and neck, surgeries for injuries of facial bones and ENT surgical oncology. Skull base surgery was intensively developed in collaboration with the Department of Neurosurgery.

Within Na Homolce Hospital, the Department cooperates with neurologists in the treatment of balance disorders and has at its disposal a unit with state-of-the-art equipment – the Leksell Gamma Knife – for the treatment of auditory nerve tumors. In cooperation with oral surgeons and neurosurgeons, it performs demanding operations on the facial skeleton and skull base. We cooperate inter alia with experts in allergy and immunology, especially when dealing with chronic rhinitis or chronic sinusitis. One of the key areas is treatment of patients with cancer. The Department provides a detailed diagnosis, surgical treatment and follow-up care, in collaboration with oncologists.

The program of temporomandibular joint treatment has further continued. In 2017, the treatment of diseases of the temporomandibular joint was mainly conservative and minimally invasive (arthrocentesis under local anesthesia and arthroscopic surgeries).

Surgical treatment of rhonchopathy and sleep apnea syndrome is also very common, with the use of a radiofrequency method that reduces healing time and postoperative discomfort for patients. The success rate of the treatment is regularly monitored by feedback from patients obtained through questionnaires. We have established very close cooperation with the Center for Sleep Disorders which is part of the Department of Neurology of Na Homolce Hospital to treat patients with sleep breathing disorders.

PROGRAM OF GENERAL MEDICAL CARE

In the field of thyroid surgery, the Harmonic scalpel has been increasingly used, which significantly reduces the length of surgical procedures. In indicated cases, minimally invasive procedures to remove thyroid tissue by the MIVAT method (minimally invasive video-assisted thyroidectomy) are used. At the same time, the Department carries out a whole range of operations, ranging from partial to extensive interventions, including removal of the entire gland and surrounding lymph nodes. It provides comprehensive postoperative care in cooperation with endocrinologists. In addition to that, the Department closely cooperates with the Department of Nuclear Medicine of the Teaching Hospital in Motol in the follow-up care of patients with thyroid cancer.

Close cooperation with dental surgery has continued. Together, we indicate and operate on patients for whom the combination procedure is an advantage.

In 2017, the outpatient unit of the Department of ENT / Head and Neck Surgery provided comprehensive services, including specialized consultancy services in oncology, otoneurology, cophosurgery and otoprosthesis, outpatient interventions for rhonchopathy, outpatient unit for corrective head and neck surgery, phoniatriy, joint outpatient unit (temporomandibular joint), and a specialized outpatient unit for the treatment of salivary glands using endoscopic techniques for diagnosis of salivary gland ducts (sialoendoscopy).

The outpatient center for sleep and snoring disorders (rhonchopathy) accounts for a large part of our outpatient care and cooperates with the Department of Neurology and the Laboratory for Sleep Disorders. The Department also has an ENT pediatric specialist working in the outpatient unit of the Department of Pediatrics. The Department continues to successfully develop an esthetic program of corrective surgery of the head and neck which primarily includes procedures on auricles, eyelids and the external nose, and laser operations.

As standard, we use an NBI diagnostic method (narrow band imaging) which allows us, both in the outpatient setting and during surgeries under general anesthesia, an earlier and more precise diagnosis of early stages of serious diseases of ENT mucosa, particularly disorders of the vocal folds and larynx.

Since 2015, we have been using a FEES (fiber-optic endoscopic evaluation of swallowing) assessment method of swallowing which has been further developed in cooperation with a clinical speech therapist.

PROGRAM OF GENERAL MEDICAL CARE

Basic data

Number of beds	11
Standard care	8
Intensive care	3
Number of physicians (as at 31/12/2016)	11
General nursing staff	21
Number of outpatient interventions	1,125
Number of consultations	1,609
Number of admissions	1,366
Number of treatment days	
Standard care	2.5
Intensive care	1.0
Bed occupancy rate (in %)	95
Average treatment period (in days)	
Standard care	2.5
Intensive care	1.0

Number of interventions

Surgeries under local anesthesia	577
Surgeries under general anesthesia	837
FESS surgeries	162
Thyroid gland surgeries	115

PROGRAM OF GENERAL MEDICAL CARE

MLS (microlaryngoscopy)	99
Oncological diagnoses	85
NBI	163
TMJ (temporomandibular joint) surgeries	36

Outlook for 2018

- The Department will continue to provide comprehensive ENT diagnostics and treatment. The aim is to further improve the professional standard and quality of the healthcare provided, with a focus on interventions necessitating shorter hospital stays.
- The program of functional corrective surgery and rhonchopathy has an increasing trend.
- We have introduced drug-induced sleep endoscopy (DISE) in patients with sleep apnea syndrome.
- We will focus on further development of thyroid surgery - newly also under grant support.
- We will continue our close cooperation with dental surgery in performing combined ENT / dental surgical procedures.
- Within the neuroprogram, close cooperation will continue with the Department of Neurosurgery, particularly with regard to the skull base surgery.
- Within the cardiac program, the Department will continue to be involved in the preparation of patients for cardiac and vascular surgeries.
- As every year, the Department plans to organize a workshop on thyroid disorders, with a focus on operative techniques and thyroid surgery in 2018.
- We will hold a seminar for practitioners on diagnosis and treatment of ENT patients attending to practitioners' outpatient units.

Department of Anesthesiology and Reanimation

Head of Department: Zbyněk Fuksa, MD

Activities of the Department

- Provision of anesthesia
- Reanimation care for bed-ridden patients (8 multidisciplinary beds at the DAR)
- Urgent reanimation within the hospital
- Consulting services
- Chronic pain treatment in the chronic pain outpatient unit
- Educational activities (an accredited training center in anesthesia and intensive care medicine)
- Cardiopulmonary resuscitation training provided to all employees of Na Homolce Hospital
- Hyperbaric oxygenotherapy

Organization of the Department

Number of physicians	29 (+ 5 physicians on maternity leave)
Number of anesthesia nurses	25
Number of pain treatment nurses	2
Number of reanimation nurses (bedside)	32
Number of paramedical staff	6
Number of administrative staff	1

PROGRAM OF GENERAL MEDICAL CARE

Basic data

Number of emergency admissions	200
Number of anesthetics per year	9,576
Number of anesthetics exceeding 2 hours	3,254
Number of anesthetics when on duty	1,210
Number of anesthetics in patients older than 65 years	4,821
Number of patients in the pain treatment outpatient office	669

Educational activities

- The Department is involved in teaching physicians – it is an accredited training facility for anesthesiology, resuscitation and intensive care medicine.
- Physicians of the Department provide training in cardiopulmonary resuscitation to all hospital employees.
- They participate in workshops, congresses and training seminars (if practicable with regard to the operation of the Department) which are part of life-long learning: they participated in 9 events in the Czech Republic and 2 events abroad in 2017.
- 2 physicians successfully passed the postgraduate certificate examination.
- In particular, I. Vrba, MD has been actively involved in publication activities comprising a total of 11 publications and lectures, including in high-impact journals.

Department of Rehabilitation and Physical Medicine

Head of Department: Ivan Hadraba, MD

Activities of the Department

The Department provides comprehensive diagnostic and therapeutic care to restore the maximum physical abilities of disabled patients within its basic specialization. Care is provided to inpatients of the Department, to inpatients of other specialized inpatient units and to outpatients.

Another type of specialized care includes orthopedic-prosthetic treatment. It is provided to all patients of the hospital by physicians of the Department in cooperation with external prosthetic and orthotic centers.

Organizational units of the Department

The Department is part of the therapeutic and preventive care section. It has an outpatient unit and an inpatient ward with 10 beds. These are provided to the Department by other departments - Neurosurgery, Vascular Surgery, Neurology and Gynecology. The outpatient unit consists of surgeries of rehabilitation physicians, a hydrotherapy room, and rooms for physiotherapy and physical therapy.

Staff (in terms of FTEs)

Physicians	6
Head physiotherapist	1
Physiotherapists	30
Occupational therapists	2
Nursing staff	4
Paramedical staff	3

PROGRAM OF GENERAL MEDICAL CARE

Masseurs/masseuses	2
Administrative staff	3

Performance overview

Number of outpatient physician interventions	32,107
Number of other staff interventions	83,612
Number of other inpatient staff interventions	83,612
Total	122,870
Number of patients admitted to the inpatient unit of the Department of Rehabilitation and Physical Medicine	196

Changes / new events in the previous year

- In the course of 2017, the number of exercise rooms for physiotherapists increased by 1 room. At the same time, a new outpatient surgery for an outpatient physician has been opened.
- On the basis of a filed request, the accreditation for specialized education in the field has been prolonged.
- The Department continued two important projects initiated in cooperation with the Departments of ENT, Surgery and Urology and with external facilities: 1) Treatment of urinary incontinence in women and treatment of urinary incontinence in men after prostatectomy; 2) Comprehensive rehabilitation treatment of voice disorders - voice rehabilitation and re-education. Examination of the voice field by a device developed in the R&D laboratory of the Academy of Performing Arts in Prague, electrostimulation treatment of vocal cord disorders.
- Using our own inpatient part of the Department, the cooperation in the care for patients of the Department of Vascular Surgery after amputations has been extended.
- A range of care has been extended by preventive exercising for direct payment.
- A system of application forms has been introduced for physiotherapy and occupational therapy in beds in other departments.
- The Department held the 8th conference for physicians of rehabilitation and physical medicine, as well as other special disciplines, and for physiotherapists in December.
- In the course of the year, expert seminars for physiotherapists and physicians were organized in cooperation with external lecturers.

Development perspectives for 2018

The main perspective is that of integrating all inpatient capacities into one facility and establishing a single inpatient unit with its own nursing staff.

Further plans include:

- Hiring new physicians and physiotherapists to fill vacant positions in accordance with the staff guideline
- Organization of the 8th conference of physicians and physiotherapists specialized in rehabilitation and physical medicine and other disciplines
- Organization of further specialized workshops for physiotherapists and physicians in cooperation with external lecturers
- Education of physicians without specialization in rehabilitation and physical medicine, preparing them for successful passing of the postgraduate examination

Department of Clinical Pharmacy

Head of Department: Milada Halačová, PharmD, PhD

Activities of the Department

The Department of Clinical Pharmacy was established at Na Homolce Hospital in August 2010 to ensure the safety of pharmacotherapy, which is one of the major priorities of the hospital management. In terms of its organizational structure: it falls within the competence of the Deputy Director for Therapeutic and Preventive Care. The working team of the Department consists of pharmacists specialized in clinical pharmacy or those who will be included in training for this specialization. The work of the clinical pharmacist is governed by the needs of Na Homolce Hospital, safety standards set by JCI and by staff availability within the Department. The activities in which the clinical pharmacist takes part are divided into several areas.

The major areas include **(1) the assessment of a newly admitted patient's medications**. This is a so-called signal check, i.e. a gross assessment of the patient's medication with respect to indications, contraindications, dosages and chosen route of administration. It reveals any duplication of medication and evaluates the clinical importance and risks of drug and food interactions. In this way, future problematic medications for the patient or high-risk pharmacotherapeutic regimes are identified and continuously monitored.

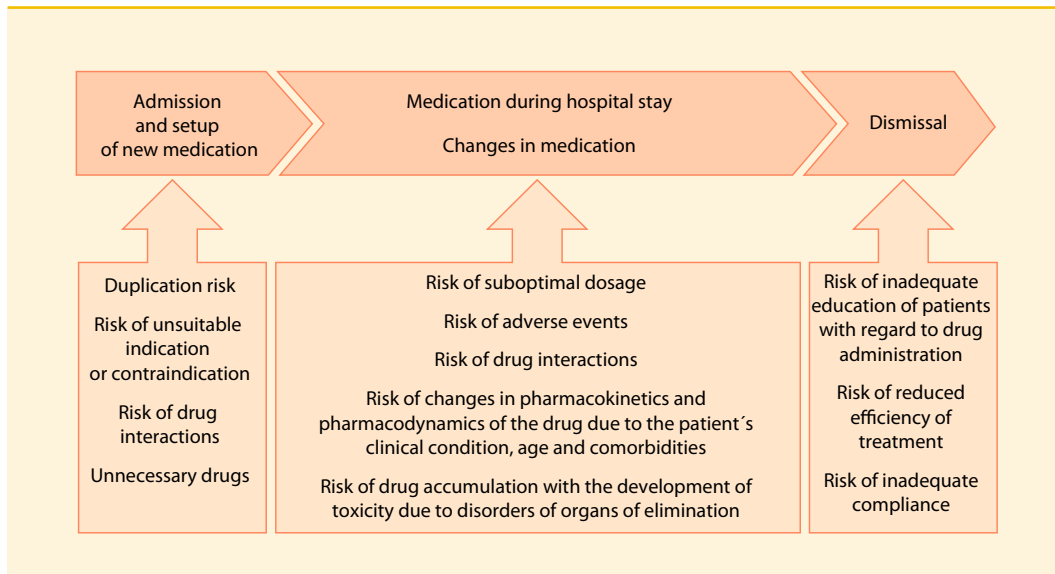
The key activity of the clinical pharmacist is **(2) everyday work in the assigned clinical department** and close cooperation with treating physicians and nurses. The clinical pharmacist monitors patient medications in detail and assesses any causal relationships between specific patient problems and their changes during illnesses, laboratory examinations and current medications, and adjusts drug dosages, especially of antibiotics for patients with various degrees of renal or hepatic damage and dialysed patients. They work with nurses on drug incompatibilities and the crushing of drugs for nasogastric and jejunal probes.

The clinical pharmacist provides an on-demand **(3) consulting service** within the hospital, takes part in **(4) the development of best practice**, reports adverse events to the State Institute of Drug Control and is responsible for preparing **expert reports** on dealing with exceptional events in the hospital related to medications. The Department of Clinical Pharmacy is working on a list of high-risk and LASA (look alike-sound alike) drugs and is involved in preparing so-called proactive procedures and storage systems to minimize the number of errors in handling these drugs and the impact such errors might have on patients.

PROGRAM OF GENERAL MEDICAL CARE

Since 2012 the Department of Clinical Pharmacy has been involved in the national Senior project implemented by the Institute of Drug Guide. Clinical pharmacists at Na Homolce Hospital perform regular drug audits in social facilities throughout the Czech Republic. The project continues in the activities of outpatient clinical pharmacy departments where in 2017 we managed to open a **clinical pharmacists consulting service for the needs of outpatient physicians and patients with the financial support of the Ministry of Health.**

Analysis of activities of the Department of Clinical Pharmacy



Work records and activities of the Department

The Department provides care to all patients in the hospital. Upon admission to our hospital, it represents the first screening point and separates young patients without medication who undergo a short-term, mostly ½-1 day hospital stay and those who are treated in the Center for Sleep Disorders, who are indicated for Gamma Knife treatment, etc. The remaining approximately 50% of inpatients require detailed revisions by the clinical pharmacist, as

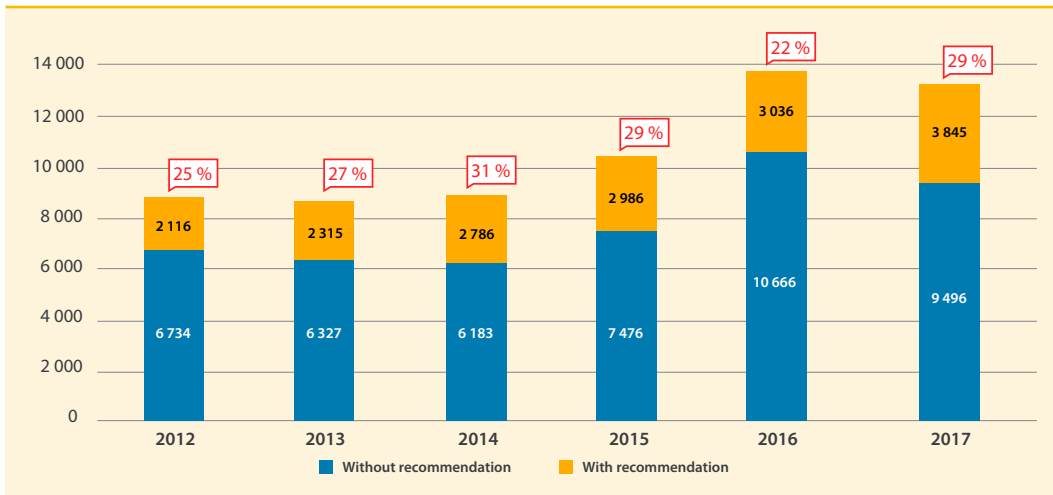
PROGRAM OF GENERAL MEDICAL CARE

many as several times during the hospital stay. Medication is adjusted on the basis of a clinical pharmacist's intervention in about 3,000 patients annually (30%). The highest percentage of interventions includes adjustments of medical drug dosage in the case of impaired function of the organ of elimination (risk of accumulation), clinically significant medical drug interactions, severe adverse events, incompatibilities, contraindications, unnecessary medical drugs, etc.

Numbers of inpatients revised by the clinical pharmacist and consultations requested by outpatient departments in 2017:

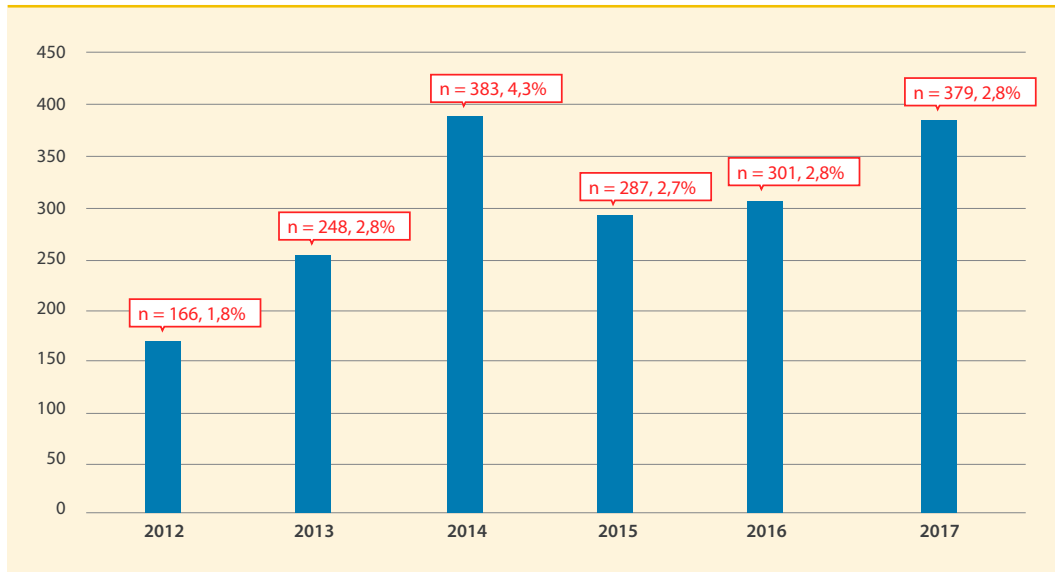
Number of revised inpatients	13,341
Number of inpatients with recommendation of the clinical pharmacist	3,845 (29.0%)
Number of patients with severe adverse events	379 (2.8%)

Graph 1: Year-on-year comparison of the number of reviewed medications in Na Homolce Hospital in 2012-2017



PROGRAM OF GENERAL MEDICAL CARE

Graph 2: Year-on-year detection (2012–2017) of adverse events expressed as percentage of the total number of reviewed medications (n=13,341)



Accreditation and specialist activities:

- The Department is an accredited facility of the Czech Ministry of Health in the field of clinical pharmacy (in 2017 the Department trained 2 post-graduate fellows registered for the discipline and 2 undergraduate students)
- Membership of the Accreditation Commission of the Czech Ministry of Health in the field of clinical pharmacy
- Membership of the Clinical Pharmacy Section of the Czech Pharmaceutical Society of J. E. Purkyně (the head of the Department is also the chair of the Society)
- Educational activities in the field of pharmacology at schools of medicine and pharmacology in Prague and Brno
- Membership of the Scientific Council of the Institute for Medical Drug Guidance
- Professional guarantor of the national “Senior” pilot project implemented by the Institute for Medical Drug Guidance, registered institute.

PROGRAM OF GENERAL MEDICAL CARE

Staff data

Number of clinical pharmacists	5.5 FTE
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Conclusion

A high standard of clinical pharmaceutical care was confirmed by the JCI international audit of the quality and safety of care which Na Homolce Hospital received again in 2017. The clinical pharmaceutical care provided by the hospital has become a common standard ensuring a high level and safety of pharmacotherapy for all its inpatients. The global set-up of the clinical pharmacological care in Na Homolce Hospital, guaranteed by the JCI independent international accreditation, is at present unique in our country. The project was awarded several times in the national competition "A Safe Hospital" (in 2013 it was the winner).

OUTPATIENT UNITS

Center for Allergy and Clinical Immunology

Senior physician: Assoc. Prof. Petr Čáp, MD, PhD

Activities of the Department

- The Center provides therapeutic and preventive specialized outpatient care to adult and pediatric patients with allergic diseases, immunity disorders and recurrent respiratory infections.
- In 2017, the Center for Allergy and Clinical Immunology performed comprehensive diagnostic and treatment procedures, including preventive and consulting care, to both child and adult patients with allergies, asthma and other immunopathological conditions (immunodeficiency and autoimmune conditions).

Basic data

Outpatient units: 4 surgeries, 3 prep rooms and 1 functional diagnostics laboratory

Number of physicians: 5 (3.2 FTE) + 2 external physicians from the Department of Clinical Biochemistry, Hematology and Immunology (0.4 FTE each)

Number of nursing staff: 5 (a total of 5.0 FTE)

Outpatient unit:

Number of patients	5,115
Number of examinations	9,421
Number of skin tests	28,410
PNumber of spirometries	6,703
Number of bronchomotor tests	1,042
Number of rhinomanometries	237
Number of allergen-containing vaccine administrations (treatment initiation)	258

Educational and other specialized activities:

- **Postgraduate training courses** provided to physicians and nurses in the field of allergy and clinical immunology for which official accreditation by the Czech Ministry of Health was received more than 10 years ago
- **Undergraduate courses** provided to students of the 1st and 2nd School of Medicine, Charles University
- **Organization of educational activities** within life-long learning on the national basis, a number of specialized conferences and symposiums: Conference of the Czech Society for Allergy and Clinical Immunology, interdisciplinary meeting in February 2017
- **Membership of the editorial board of "Alergies"** - a journal for postgraduate training - and **Zdravotnické noviny**, a health weekly
- **Membership of professional associations:** Czech Society for Allergy and Clinical Immunology of J. E. Purkyně, Czech Pneumology and Phtisiology Society of J. E. Purkyně (Assoc. Prof. Čáp, MD, PhD), Czech Society of Internal Medicine of J. E. Purkyně (Assoc. Prof. Čáp, MD, PhD), European Academy of Allergy and Clinical Immunology (Assoc. Prof. Čáp, MD, PhD, Pončáková, MD, Herknerová, MD), European Respiratory Society (Assoc. Prof. Čáp, MD, PhD); **active participation in workshops, conferences and foreign congresses** in the field of allergy and clinical immunology
- **Research activities** - (Assoc. Prof. Čáp, MD, PhD) participation in the **OLA EX AIR project - Determination of breathing profiles of inflammatory parameters in patients with severe asthma** (Pulmonary Department of Hradec Králové Hospital, Department of Occupational Medicine of the 1st School of Medicine, Charles University, Prague, University of Chemistry and Technology, Prague and Na Homolce Hospital)

Department of Pediatric and Adolescent Medicine

Senior physician: Tibor Savel, MD

Mission of the Department

As an integral part of Na Homolce Hospital, the Department provides high-quality healthcare to children and adolescents within the general health-care program of the hospital. It offers above-standard services to its patients and indirectly also to their family members and supports the friendly and professional approach of the staff and open and patient-oriented communication.

Activities of the Department:

- Therapeutic and preventive care provided to children and adolescents – general practitioner for children and adolescents (specialization 002)
- Consulting services in the field of pediatric care (specialization 301)
- Specialized care in the field of pediatric neurology, endocrinology, gastroenterology, psychology, orthopedics, pneumology, nephrology and speech therapy
- Therapeutic and preventive care provided to foreign nationals
- Consulting services provided to children of foreign nationals
- Healthcare stipulated by international treaties of the Czech Republic
- Therapeutic and preventive care provided to clients of the commercial program
- Emergency services at the hospital

Facilities

The Department of Pediatric and Adolescent Medicine is an outpatient unit without an inpatient section. It consists of:

- 4 pediatric offices, of which one is a consulting office specializing in ultrasound examinations
- 1 office of clinical speech therapist
- 1 room for laboratory sample collection also used for emergency reanimation and isolation of infectious patients prior to their transport to the infection inpatient ward

OUTPATIENT UNITS

- Rooms for staff members
- A separate register of all patients of Na Homolce Hospital aged 0-19 years (i.e. also for patients outside the Pediatric Department)
- Hygienic facilities for all polyclinic units on the 1st floor
- A room for collecting used laundry

Staff of the Department

Physicians:

- 1 full-time physician
- 5 part-time physicians
- 1 full-time non-medical university graduate (clinical speech therapy)
- 7 consulting specialists
- 2 physicians on a contractual basis covering, together with the core staff of the hospital, emergency service and substituting other physicians during holidays or sick leave

General nursing staff:

- 5 pediatric nurses

Pediatric reception desk:

- 3 employees

Basic data

Total number of registered patients	3,678
Number of children receiving permanent care	1,516
Number of children registered in consulting unit	172

OUTPATIENT UNITS

Number of children in specialized outpatient units	825
Number of children in outpatient speech therapy unit	358
Number of registered foreign nationals	268
Number of paying foreign nationals	189
Number of the commercial program clients	149
Number of registered newborns	55

Total number of procedures	20,258
Number of pediatric procedures	13,852
Number of procedures performed by consultants	1,377
Number of procedures performed by speech therapists	3,097
Number of procedures performed by external staff	1,932

Average number of patients treated daily in the office:	
Pediatricians	18
Consultancy	7
Speech therapy	15
Emergency service on working days	5
Emergency service on holidays	12
Number of children treated daily in the department	54
Total number of treated foreign nationals	822

OUTPATIENT UNITS

Economic results for 2017

Costs	9,490,382
Wages	8,656,631
Materials	526,513
Total revenues	1,582,149

Points

Total points	3,890,949
Paediatricians	2,143,055
Consultancy	406,875
Speech therapy	1,112,479
External specialists	220,190

Changes and events in 2017

- The CRP OPRION examination continued to be used for rapid diagnosis of inflammatory diseases in order to provide effective pharmacological treatment of these conditions. In total, 1,405 of these examinations were performed. STREPTTEST examinations for rapid diagnosis of Streptococcal infections were used extensively. In total, 977 of these examinations were performed.
- The Neurology and Orthopedics outpatient units pursued the established program of neuro-orthopedic screening focused on observation of patients, aimed at observation of locomotor disorders. In cooperation with a pediatrician, the program actively identifies, subsequently observes and treats disorders of gait coordination, postural and neurological disorders.
- The endocrinology consulting center, in cooperation with pediatric outpatient units, was involved in early detection of children with diagnosed intrauterine growth retardation. Their further follow-up is covered by the Institute of Endocrinology. The consulting unit continued early diagnosing of juvenile thyreopathy.

OUTPATIENT UNITS

- The psychology consulting unit provided diagnostic services of the clinical psychologist, crisis intervention and long-term monitoring of the child's psychological development.
- Clinical speech therapy was provided to children registered with the Department, as well as to children from other healthcare facilities in Prague and other regions.
- Consulting services were provided by the pediatric gastroenterology outpatient unit, including ultrasound diagnosing of the gastrointestinal tract in children.
- A new physician – V. Cirmanová, MD was hired to cover for a colleague on maternity leave, as well as two physicians on a part-time basis – T. Savel, MD and Dodovová, MD. A new psychologist was hired during the year – Chválová, MA.
- Courses providing continuous training of physicians were organized.

Outlook for 2018

- Admission of new patients of all age groups is foreseen. Economic activity will be carried out within the hospital flat rate and payment per capita for specialization 002. The Department should produce a stable number of scoring points, cooperate with the complementary services of the hospital and generate additional revenues within the commercial program.
- Inpatient care of its patients will be covered by the Department preferably in cooperation with the Clinic of Pediatric and Adolescent Medicine Ke Karlovu 2, Prague 2. Specialized examinations performed by our consultants will continue to be offered to physicians for children and adolescents from Prague 5. We have newly introduced examinations for sports purposes.
- Vacancies will gradually be filled by specialized physicians for duty service and continuous training will be further provided to physicians and nurses.
- Dodovová, MD, started to work at 0.8 FTE on January 1, 2018 and Savel, MD, was appointed the main physician of the Department after Hejtmánková, MD.



Department of Dermatology and Venerology

Senior physician: Richard Šuraň, MD

Activities of the Department

The Department provides outpatient therapeutic and preventive care of clients of commercial services (Homolka Premium Care, Comfort Care and paying foreign nationals), the staff of embassies in the Czech Republic, the staff of Na Homolce Hospital, and consulting services for hospital outpatients and inpatients. Treatment of other patients from the Czech Republic and abroad is provided only based on the immediate availability of physicians in the Department.

In case of suspected venereal diseases, the Department makes basic examinations. Patients with a confirmed diagnosis of gonorrhea, syphilis or chlamydia infection are referred to the respective consulting specialists in dermatovenerology.

The Department performs examinations of suspected skin tumors and in the case of histological confirmation of the diagnosis, the patients are treated and followed up by the Department. Patients with malignant melanoma and lymphoma cutis are referred to the Department of Oncology of Na Homolce Hospital (and the Department of Dermatology is then involved in their follow-up), or to the outpatient dermato-oncology units of other dermatology departments.

In addition to the basic specialized examination, the Department performs electrocauterization, cryotherapy, sclerotherapy of varicose veins, examination of pigment formations by dermatoscope, epicutaneous tests, dermatosurgical and esthetic dermatology interventions.

Basic data

The staff of the Department include 1 senior physician (1.0 FTE), 1 independent physician (0.5 FTE) and 2 nurses (1.0 and 0.8 FTE).

Development perspectives for 2018

Physicians and nurses of the Department are involved in postgraduate training courses and regularly read professional journals. The task of the Department for 2018 is to maintain the quality of the provided therapeutic and preventive care, strengthen epicutaneous testing and increase the range of esthetic dermatology interventions.

Department of Ophthalmology

Senior physician: Petr Novák, MD

Activities of the Department:

- Outpatient therapeutic and preventive ophthalmological care of patients of H+ and Homolka Premium Care programs, foreign nationals, employees and other patients
- Consulting services provided to both outpatients and inpatients from different hospital departments (primarily neurology, neurosurgery, cardiology, anesthesiology and reanimation and internal medicine)
- Specialized examinations of patients referred from external ophthalmologists and other specialists
- Outpatient surgery - cataract surgery, anterior eye segment and glaucoma surgery, eyelid surgery and surgery of surrounding tissues (currently more than 99% of cataract surgeries are done in an outpatient setting)
- Inpatient surgical procedures are performed for corneal transplantation and certain cataract surgeries (in patients from remote regions and in severely ill patients); for this purpose, the Department uses beds in the ENT Department and the Department of Internal Medicine
- Paid surgeries (refractive clear lens extractions, implantation of phakic lenses, astigmatism corrections)

Organizational units of the Department

The Department of Ophthalmology has an outpatient unit and operating room; it has no inpatient ward. If need be, the patients stay in the ENT Department or the Department of Internal Medicine. The Department is managed by the senior physician and independently working physicians in a total of four medical offices.



OUTPATIENT UNITS

Procedures

Number of outpatient interventions	14,151
Number of patients treated in outpatient units	5,528
Total number of surgeries	1,377
Cataract surgeries	1,202
Commercial refraction interventions	105
Corneal transplantations	28
Surgical correction of astigmatism	42

Staff data

Number of physicians	6
Number of physician FTEs	4.3
Contract for work (FTE)	0.2
Number of general nursing staff	7
Number of general nursing staff (FTE)	6.0
Number of auxiliary nursing staff	1
Number of auxiliary nursing staff (FTE)	1.0
Number technical staff members	1
Technical staff FTE	1.0
Total number of employees	14
Total number of FTEs	12.5

Changes in 2017

2017 did not see any investments into the medical instruments in the OR and technical equipment of the Department. Despite this fact, the Department managed to maintain the trend of long-term stabilization of cataract surgeries and the number of transplantations. Commercial refractive surgeries – lens extraction and implantation of monofocal or multifocal implants – are on the decrease. Patients were still interested in the possibility to pay an additional fee for the implantation of an above-standard lens within the “economically more demanding treatment option” (implantation of toric and multifocal lenses within cataract surgery covered by health insurance companies) that was cancelled in 2013.

Educational and other specialized activities

Physicians of the Department are members of the Ophthalmological Society and the Czech Society of Refractive and Cataract Surgery and participate both actively and passively in workshops, congresses and other events of the Societies. In 2016, the physicians participated in postgraduate courses both at home and abroad (the Lion’s Club Educational Center, international cataract surgery course) and gave a number of presentations at ophthalmological congresses and specialized ophthalmological workshops.

Development perspectives for 2018:

- Provision of information to specialists on treatment possibilities in the Department of Ophthalmology, either covered by health insurance companies or provided in the form of commercial care
- Coping with competitive conditions in the medical market within so-called economically more demanding options of healthcare
- Raising awareness about procedures performed in our Department and strengthening its position among other ophthalmology facilities
- Further extension of the range and increase of the overall number of commercial intraocular interventions
- The Department has complied so far with the highest standards of surgical treatment of the anterior eye segment; however, it is imperative that medical equipment be gradually replaced
- A new Optical Coherence Tomography (OCT) device was purchased for CZK 1.5 million for the purpose of the timely diagnosing of macular lesions (delivery planned in 02/2018)
- Continued cooperation with clinical ophthalmological facilities in Prague
- Workshops under the auspices of the Department of Ophthalmology, workshops organized by the Association of Nurses, the Lion’s Club Educational Center in the Czech Republic and the Czech Society of Refractive and Cataract Surgery
- It will be necessary to address the lack of space in the Department in the near future



Department of Psychiatry

Senior physician: Jaroslava Skopová, MD

Activities of the Department

The Department provides diagnostic, therapeutic and preventive psychiatric care to polyclinic patients, patients of the department for foreign nationals, patients using other hospital programs, and consulting services in the hospital except for the treatment of substance-related disorders. The Department cooperates with physicians in all fields, inter alia within the program of comprehensive pain management, it assesses patients with severe forms of obsessive-compulsive disorder at the Department of Stereotactic and Radiation Neurosurgery which is the only facility performing stereotactic neurosurgical interventions with such patients.

Basic data

- 1 outpatient unit
- 1 physician (1.0 FTE) with I and II degree Postgraduate Certificate in psychiatry and function specialization in systemic psychotherapy
- 1 nurse (1.0 FTE)
- Total number of examinations – 2,919, of which 108 were new patients for whom initial examinations were performed
- Number of consulting sessions – 70

Evaluation of clinical activities

Given the limited capacity represented only by one psychiatric position (1 FTE), the clinical activities of the Department remained the same. The focus is on comprehensive diagnostic, therapeutic and preventive psychiatric care, respecting hospital priorities. The patients who cannot be admitted for treatment due to the lack of capacity are referred to the care of other departments of psychiatry. The physician cooperates with other inpatient psychiatry departments in Prague where patients indicated for hospitalization are referred to, as well as with community service centers which receive patients with severe mental disorders and impaired functional abilities.

Membership of professional associations and teaching activities

The physician is a member of the Czech Psychiatric Society of J. E. Purkyně, the Czech Society of Neuropsychopharmacology and the Society of Biological Psychiatry. She is also a member of the specialization committee of the Scientific Council of the Czech Medical Chamber for psychiatry. She also presents lectures at workshops in hospital departments, workshops of the Department of Psychiatry of the General Teaching Hospital and the 1st School of Medicine, Charles University, Association of General Practitioners, etc.

Development perspectives for 2018

The aim is to maintain the current high quality of the care provided and economic results. As Na Homolce Hospital is a highly specialized hospital where psychiatry, as one of the basic fields of current medicine, is only a complementary discipline ensuring a comprehensive range of provided healthcare services, no further development is possible under the current staffing situation.



Department of Clinical Psychology

Head of Department: Assoc. Prof. Lenka Krámská, MA, PhD

Activities of the Department

The Department of Clinical Psychology has no inpatient ward. The psychologists work in three outpatient units where they examine patients and provide psychotherapy in compliance with the respective specialization of a given program and in cooperation with individual target departments (in particular, with neurosurgery, neurology, stereotactic and radiation neurosurgery, internal medicine, surgery, etc.) according to the requests of treating physicians. After linking with children's clinical psychology, we have outpatient units D104 in the children's department. They also provide consulting services to other departments of Na Homolce hospital.

Specialized psychological care includes preoperative psychological preparation before complicated interventions, help in coping with the impact of serious diseases, and neuropsychological diagnostics aimed at the identification of intellectual and cognitive abilities or assessment of personality psychopathology. Neuropsychological diagnostics can rule out some medical interventions or refer the patient for special procedures, such as bariatric surgery, neurostimulator implants etc., for which special psychological or neuropsychological assessment is required by health insurance companies.

In 2017 repeated accreditation was awarded by the Czech Ministry of Health, which continued the original accreditation received in 2012, but was only valid until June 30, 2017.

Main services:

- **Neuroprogram** – Specialized neuropsychological diagnostics and psychotherapy in patients with neurological diseases (epilepsy surgery program, neurosurgical treatment of tumors, cerebrovascular diseases, cognitive rehabilitation, cooperation with the Department of Neurosurgery, e.g. in awake brain surgeries, cognitive rehabilitation of patients with neurocognitive deficit, cooperation with the Department of Stereotactic and Radiation Neurosurgery in the examination of patients with epilepsy, obsessive-compulsive disorder, etc. before and after interventions)
- **Cardiac program** – Specialized psychological diagnostics and psychotherapy in patients with cardiovascular diseases (cardiac surgery, demanding vascular reconstructions, acute myocardial infarction, neurostimulator implantation for refractory angina pectoris, etc.)

OUTPATIENT UNITS

- **Internal medicine program** – Specialized psychodiagnostic and psychotherapeutic care in the field of obesitology and bariatrics, diabetology, endocrinology, oncology, pneumology and gastroenterology; other activities include psychosomatic and obesity consultations
- **Crisis intervention** in acute responses to unfavorable diagnosis, psychological preparation for demanding interventions, assistance in coping with psychological impacts of diseases (Leksell Gamma Knife, oncology, etc.)
- **Pain management consulting center** – Psychological assessment and subsequent supporting psychological care provided to patients with long-term or chronic pain
- **Psychosomatic consulting center** – Psychological treatment of patients with psychosomatic disorders (e.g. high blood pressure, ulcer disease, diabetes, various functional disorders, etc.) requiring a professional psychological intervention
- **Psychodiagnostics and psychotherapy in children** with various psychosomatic and educational problems within comprehensive care provided to pediatric patients
- **Psychological examination of patients required by different directives and regulations of the Ministry of Health and General Health Insurance Company** – prior to implantation of neurostimulator, programmable pumps, before providing a patient with an electric wheelchair, C-leg prosthesis (microprocessor controlled joint), before returning driving license to patients, etc.)

Complementary services:

- Psychological examination of drivers pursuant to Act No. 361/2000 Coll. performed by a psychologist accredited by the Ministry of Transport

Research activities:

- Research follow-up of patients (e.g. with epilepsy, after ischemic stroke, etc.) in cooperation with the Epilepsy Center and Departments of Neurology, Neurosurgery and Vascular Surgery
- Cooperation with the Department of Radiodiagnostics in developing medical memory examination paradigm by means of functional MRI with a focus on higher mental functions (memory, speech, etc.)
- Cooperation with the Department of Stereotactic and Radiation Neurosurgery in examination of patients with epilepsy, obsessive-compulsive disorder, etc. before and after surgery
- Cooperation with the Department of Neurosurgery in awake brain surgeries, monitoring of patients with EC-IC bypasses, elective aneurysm, etc. before and after surgery
- Preparation of Neuropsychological Assessment Battery (NAB) in the Czech language for Testcentrum
- Development of research cooperation with the Faculty of Arts, Charles University – differential diagnosis and methodology research issues

OUTPATIENT UNITS

Basic data

Number of psychologists:

With postgraduate certificate	3
Without postgraduate certificate	2

Number of psychological interventions performed in inpatients:

Individual systemic psychotherapy (30 min.)	8
Specific psychological intervention (30 min.)	500
Targeted psychological assessment (60 min.)	722
Follow-up psychological assessment (30 min.)	167
Psychodiagnostics with a complicated psychotherapeutic intervention (90 min.)	6
Crisis intervention (30 min.)	14

Number of outpatient interventions:

Individual systemic psychotherapy (30 min.)	390
Comprehensive pediatric psychological assessment (60 min.)	106
Targeted pediatric psychological assessment (60 min.)	113
Comprehensive psychological assessment (60 min.)	2
Targeted psychological assessment (60 min.)	639
Follow-up psychological assessment (30 min.)	422
Specific psychological intervention (30 min.)	130
Psychodiagnostics with a complicated psychotherapeutic intervention (90 min.)	122

OUTPATIENT UNITS

Crisis intervention (30 min.)	1,129
Emergency psychotherapy (60 min.)	2

Total number of points achieved:

Total	1,934,483
Of which outpatient points	618,375

Educational activities and membership of professional associations

- We organize specialized study visits as part of undergraduate study programs (for the Faculty of Arts and Teaching School, Charles University – a total of 15 students), supervise diploma and master’s degree theses, as well as postgraduate study (courses for Postgraduate Certificate in clinical psychology – a total of 3 postgraduate and 3 PhD students and 1 fellow of the Erasmus program). In 2017, training of psychologists in undergraduate preparation was carried out in the Department. Two internal trainees and 5 external trainees from other healthcare facilities are involved in undergraduate preparation at the Department.
- Assoc. Prof. L. Krámská, MD, PhD develops the activities of the Czech Neuropsychological Society. She founded with her colleagues and obtained accreditation by the Czech Ministry of Health for a certified course in clinical neuropsychology. She is a member of the Specialization Council of the postgraduate study program in the field of clinical psychology at the Faculty of Arts, Charles University, Prague. She teaches at the University of New York in Prague and the Subdepartment of Clinical Psychology of the Institute of Postgraduate Studies in Healthcare. She is a member of the international ILC (International Liaison Committee) of the International Neuropsychological Society (INS) and the committee of the European Neuropsychological Society for the Czech Republic and prepares, in cooperation with INS, an international congress to be held in Prague in 2018. In 2015–2017, she was a member of the Clinical NeuroPsychology Task Force of the European Federation of Psychological Societies in Brussels, to represent the Czech Republic.
- M. Kořán, MD, PhD is a long-term member of the committee of the Czech Union of Psychological Societies. M. Kořán, MD, PhD is a lecturer for postgraduate courses on transport psychology at the Faculty of Arts, Palacký University in Olomouc, Masaryk University Brno and Faculty of Arts, Charles University, Prague. He provides lectures at workshops within specialized education in clinical psychology at Na Homolce Hospital. He is a media commenter in the field of transport psychology in the public media.



OUTPATIENT UNITS

- J. Procházková, MD gave lectures at professional workshops and conferences on sexual violence against children, child custody cases, interrogation of child witnesses, etc., was a member of the Ethics Committee of the Czech-Moravian Psychological Society and on the Board of scientific societies at the Czech Academy of Sciences. She also presented lectures within psychodynamic training, was a regular supervisor in various institutes and a member of the Czech-British Society for Family Crisis Prevention based in Leeds. J. Procházková, MD, terminated her employment contract as of July 31, 2017. Chvalová, MA, took her office from September 2017.
- In 2017, employees of the Department presented a total of 4 presentations at international congresses, 9 presentations at domestic conferences, as well as 9 presentations at specialist workshops of the Department of Clinical Psychology. They published several articles in impact journals with IF, and 6 chapters in monographs (see the Literature List).

Development perspectives for 2018

As in previous years, the Department will continue to provide high-quality psychodiagnostic and psychotherapeutic care to both inpatients and outpatients at Na Homolce Hospital (where necessary also to hospital employees) and to other healthcare facilities. Further, we will continue to participate in training within the postgraduate track (theoretical-practical and practical programs in clinical psychology) and cooperate with the Faculty of Arts and Teaching School of Charles University and the University of New York in Prague in undergraduate and postgraduate education, to organize study visits within postgraduate education in clinical psychology. Since the accreditation of the Department of Clinical Psychology was awarded in January 2017, we continue in the implementation of the specialized educational program in the field of clinical psychology in cooperation with the accreditation committee of the Ministry of Health for further postgraduate education students. We will continue to participate in the standardization of neuropsychological methods and procedures for the Neuroprogram of Na Homolce Hospital and to develop psychotherapy care and cognitive rehabilitation of patients with neurocognitive deficits. Associated Professor Krámská wil actively participate in the International Neuropsychological Congress which will be held at the Congress Center in Prague on July 18-20, 2018. We will continue to develop international cooperation and activities with professional associations and institutions.

Dental Outpatient Department

Senior physician: Petr Kolčava, MD

Activities of the Department:

- Provision of outpatient dental care
- Provision of preventive outpatient dental care
- Provision of acute outpatient dental care on duty
- Provision of consulting services to patients from other departments of the hospital

Basic data

- The above-given range of outpatient dental care was provided by one dentist in 2017. The care was provided to outpatients and inpatients of polyclinics, foreign nationals, contractual partners of Na Homolce Hospital, and hospitalized patients.
- In 2017, the Department had two dental offices. One dental office is used by the dentist and a nurse, the other one was rented out to the Department of Dental Surgery on August 1, 2016.
- In 2017, a total of 5,412 patients were examined and treated.

Evaluation of clinical activities

The number of examined and treated patients was similar to 2016. However, the number of interventions is still rather high which was achieved particularly due to highly efficient organization of work, immediate phone contracts with patients and filling of time slots vacated by absent or late patients and, in particular, extension of working hours, e.g. by treatment of painful conditions before and after the official working hours.



OUTPATIENT UNITS

Changes and events in 2017

In the field of therapeutic care, the Department continued to cooperate with the Department of Dental Surgery in the treatment of patients with dental implants. An increased number of patients with Class I defects according to Voldřich were treated with adhesive fixed replacements, the so-called Maryland bridge. The number of patient treated with a system of ZX - 27 glass abutment technology increased, as well as the number of patients treated with conditionally removable replacements and all-ceramic restorations. A new method of improving retention of lower total replacements has been introduced - using so-called locators. As for the staff, Na Homolce Hospital concluded a contract for work with Kostenyuk Mighail, MD, for 20 hours. He is utilized for dental surgery for the whole working time. In the field of education, in December 2017, Petr Kolčava, MD, passed an examination before the commission of the State Office for Nuclear Safety and has been registered for using sources of ionizing radiation in the field of dental and X-ray diagnostics.

Development perspectives for 2018

The priority in 2018 will be to fill in the vacant position of dentist and dental hygienist. The Department will continue to cooperate with the Department of Dental Surgery in the treatment of patients with new types of dental bone implants. Vanini's stratification technique will be used more widely in composite treatment. In cooperation with the prosthetic laboratory, the new Silensor anti-snoring system will be introduced into practice in selected patients, as well as dental guards to prevent bruxism (teeth grinding). Indications will be extended for all-ceramic replacements of veneer-type and the capacity will be increased for the production of full artificial dentures using locators in order to increase their retention. We will purchase an automatic dental amalgam dosing and mixing device. A tender for the purchase of a dental set which has been approved by the investment committee will be conducted. Although dental care is a complementary service in the system of Na Homolce Hospital, the Department of Dentistry will make every effort to maintain the comprehensive range and high quality of the services provided as far as possible.

SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

Department of Radiodiagnostics

Head of Department: Prof. Josef Vymazal, MD, DSc.

Activities of the Department

The Department provides services both to hospital and to other healthcare facilities, including 24-hour support in 2017. The activities included the whole range of radiodiagnostic examinations, with a special focus on diseases of the nervous, locomotor and cardiovascular systems, as well as on vascular and non-vascular interventions.

Vascular methods

In the past year, the Department further developed the program of stent graft implantation in aneurysms of the abdominal and thoracic aorta and pelvic vascular system, in cooperation with vascular surgeons and cardiac surgeons.

Non-invasive treatment of brain aneurysms by means of detachable spirals, with a possible use of remodeling techniques by means of stents, continued in the comprehensive cerebrovascular centre. The decision made on this or an alternative treatment – in particular, an open neurosurgical procedure – is made during common workshops organized between the Departments of Neurosurgery, Neurology and Radiodiagnostics.

A new, two-component adhesive Onyx continued to be used on a regular basis that provides further possibilities for the treatment of intracranial arteriovenous malformations and malformations in the area of the spinal canal. Onyx was also used for malformations in other locations.

In addition to using intra-arterial thrombolysis, the revascularization treatment of acute ischemic stroke caused by occlusion of some of the main cerebral arteries was carried out by a method involving the mechanical removal of the thrombus using various types of extraction equipment, mostly combining mechanical destruction and evacuation of the thrombus. Further development in recanalization methods has been achieved by a special fully-retractable stent used for cerebral arteries to withdraw a thrombus from the artery which means that it can also be retracted after it is fully uncoiled. This enables the thrombus to be captured after its partial deployment and withdrawn in the stent from the vascular system. Na Homolce Hospital continues to be a fully active accredited comprehensive cerebrovascular center where CT, MRI and endovascular interventions are available around the clock.

Our Department follows the latest technological trends in this field and reasonably chooses new technologies and materials for its own application.

SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

Non-vascular methods

The area of non-vascular methods was further dominated by CT-guided nerve root injections, vertebroplasty and kyphoplasty. In this segment of care, our hospital has been traditionally one of the most active centers in our country. Non-vascular intervention methods are carried out with a 16-layer CT device.

An epiduroscopy technique was further developed in our hospital in 2017 as the only center in the Czech Republic on the basis of an internal grant.

Since December 2010, two-source Somatom Flash CT equipment has been used for diagnostics to ensure diagnostic advances. In 2012, the device was retrofitted with an interactive reconstruction system (SAPHIRE) which has contributed to a further considerable reduction of radiation exposure during CT examinations, since CT scans are still among the most significant sources of radiation in humans. In agreement with global trends, we tend to replace a CT scan with MRI in indicated cases, where there is no radiation exposure at all.

In the previous year, we performed a significant number of CT scans of the heart, including CT coronarographies. We are also able to significantly reduce radiation exposure for these examinations thanks to state-of-the-art equipment. The number of examined patients with a congenital heart defect using CT has been increasing. CT perfusion examination of the entire brain was carried out in acute strokes in indicated cases.

The system of dual energy scanning allows a better separation of the skeleton and iodine-containing contrast agent from other tissues, which is helpful particularly in CT angiography. The Department also uses this technology to determine the chemical composition of certain structures, for instance urinary stones.

Magnetic resonance imaging (MRI)

For several years now, examination by intraoperative magnetic resonance imaging (IMRI) has been performed on a regular basis, using the equipment installed in the neurosurgery operating room. Our hospital belongs to the very few in the Czech Republic which are able to perform such examinations. The Department continues to routinely carry out advanced MRI methods, i.e. MRI spectroscopic examinations, by both SVS and CSI, (both of the brain and other parts of the body, the prostate in particular), diffusion imaging, including the technique of diffusion tensor imaging for white matter tractography. Functional MRI BOLD imaging for preoperative planning, neuronavigation and deep brain stimulation have been further developed. In addition to routine clinical use, research using these techniques has been conducted with prestigious publication outputs. These examinations have become faster and more precise after the implementation of new software.



SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

In 2017, the functional MRI BOLD imaging method was further developed, in particular, after the introduction of new examination methods. Post-processing of functional BOLD sequences was considerably simplified and accelerated.

The program of MRI heart examinations has continued, including, as a standard, phase contrast sequences for imaging and quantifying blood flow, which is important mainly for the assessment of valvular and short-circuit defects of the heart. The total number of CT and MRI examinations of congenital heart defects has further increased, in particular, in adult patients who had been operated on in childhood.

In 2017, the sequence for quantifying relaxation times was successfully installed in the 3T Magnetom Skyra. Since 2012, the Department has used MRI angiography of renal arteries with no contrast agent, which was made possible by retrofitting the Magnetom Avanto MRI scanner with more specific sequences (NATIVE). In addition to saving financial means, this examination is also important for patients with impaired renal functions when contrast agent administration could be dangerous.

Mammography

The mammography unit of Na Homolce Hospital belongs to a network of accredited clinics and is equipped with a Planmed Nuance Excel mammography system with direct digitization.

Patients with unclear mammography and ultrasound findings are referred for an MRI breast examination in indicated which are also performed in the Department. The second reading of images continues to be a matter of routine.

The mammography unit of Na Homolce Hospital was again among the five best clinics out of the 60 centers in the Czech Republic that were assessed for the quality of mammography screening.

All radioscopic image documentation is digitally stored in the hospital's information system and is immediately available to physicians. All operations of the Department of Radiodiagnostics have been fully digitalized, i.e. no films have been used since 2009. The hospital also uses a well-proven ePACS system, interconnecting imaging records of most hospitals in the country.

Since 2011, the Department has been using only electronic request forms on a regular basis and external request forms are also transferred to electronic format. The system of electronic request forms for all types of radiodiagnostic examinations has been in use in the hospital for several years now. The SOU standards and SOPs of the Department of Radiodiagnostics are available on its website.

SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

Basic data

Technical equipment

- Angiography unit: 1x Multistar Siemens, 1x Siemens Axiom Artis biplane
- CT unit: 1x Siemens Somatom Flash (2x128), 1x Siemens Sensation 16
- MR unit: 1x Magnetom Avanto 1.5T, 1x Magnetom Symphony 1.5T, 1x Siemens Skyra 3T, 1x GE Signa HDx (neurosurgery operating rooms) 1.5T
- Ultrasound unit: 2x Toshiba Aplio, 1x Toshiba Eccocee, 1x GE Logiq 9, 1x GE Logiq E9
- Mammography: 1x Planmed Nuance Clarity
- Basic equipment: 1 fluoroscopic and fluorographic unit, mobile X-ray equipment, PACS workstations, scanners, printers, data archives

Instrumental equipment replacement

In 2018, the oldest angiography device and the 16-layer CT device will be replaced by a hybrid CT angiography device, which is unique in its category both in the Czech Republic and in other surrounding countries.

Basic staff data

Number of physicians	26
Number of radiodiagnostic laboratory technicians	31
Number of general nursing staff	9
Number of administrative staff	10
Number of auxiliary healthcare staff	2

Specialized intervention and treatment procedures

PTA (with or without stent implantation)	593 PTA, 205 stents
Endovascular treatment of cerebral aneurysms (coils, stents)	40

SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

Recanalization of cerebral arteries in acute stroke	62
PTA/stent of extracranial arteries	23
PTA/stent of intracranial arteries	7
Embolization in a neurological area (cerebral, spinal AVM)	8
Tumor embolization	17
CT-guided interventions - total	2,666
Of which: targeted CT-guided nerve root and facet injections	2,283
CT-guided vertebroplasty + kyphoplasty	242
CT-guided radiofrequency ablation	16
CT-guided biopsies and drainages	122

Overview of selected radiodiagnostic examinations

Computed tomography	12,428
Magnetic resonance imaging	13,414
Angiography	2,917
Ultrasound examinations	14,479
Mammography - total	13,866
Of which screening	12,276
Ultrasound examination within mamma diagnostics	2,992
Breast node biopsy	200
Fluorography, fluoroscopy, dental X-ray	36,804
Total number of radiodiagnostic examinations	100,070

SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

Plans for 2018

- Our 3T MRI scanner will be used to develop new state-of-the-art techniques, such as functional MRI BOLD imaging, MR tractography and diffusion tensor imaging, and MR spectrography. New software will further be tested.
- Examination sequences will be further optimized in order to ensure the maximum use of the device's potential. In addition to the clinical routine, the new device will also partly be used for scientific applications. We plan to simplify and speed up demanding post-processing, especially in functional BOLD and DTI examinations. The 3T device will solve grant projects funded by the Health Research Agency which have been assigned to our Department.
- The method of epiduroscopy should be further used for non-vascular interventions in our hospital, which is the only facility in the country to use it. This technique should help patients who had undergone repeated lumbar spine surgeries and suffer from postoperative adhesions. Basic experience in using this method has already been gained since 2016..
- There is a long-term focus on connecting image databases of the Department of Nuclear Medicine and Department of Radiodiagnostics; data from the archives of the Department of Cardiology are already fully available.

SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

Department of Nuclear Medicine and PET Center

Head of Department: Assoc. Prof. Otakar Bělohlávek, MD, PhD

Activities of the Department:

- Functional scintigraphic imaging, including PET/CTI
- Immunoanalytical laboratory testing methods

Organizational units of the Department:

- Nuclear Medicine outpatient unit
- Immunoanalytical laboratory
- Radiopharmaceutical laboratory

Basic data

The Department provides complementary services within the hospital, exclusively to outpatients.

Staff (as of December 31)

Position	Number of persons	Number of FTEs
Assistant (technical-administrative employee)	1	1.0
Pharmaceutical lab technician	1	1.0
Physician	9	7.8
Professional lab technician, preparation of medicines	2	2.0
Medical radiation technologist	7	7.0

SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

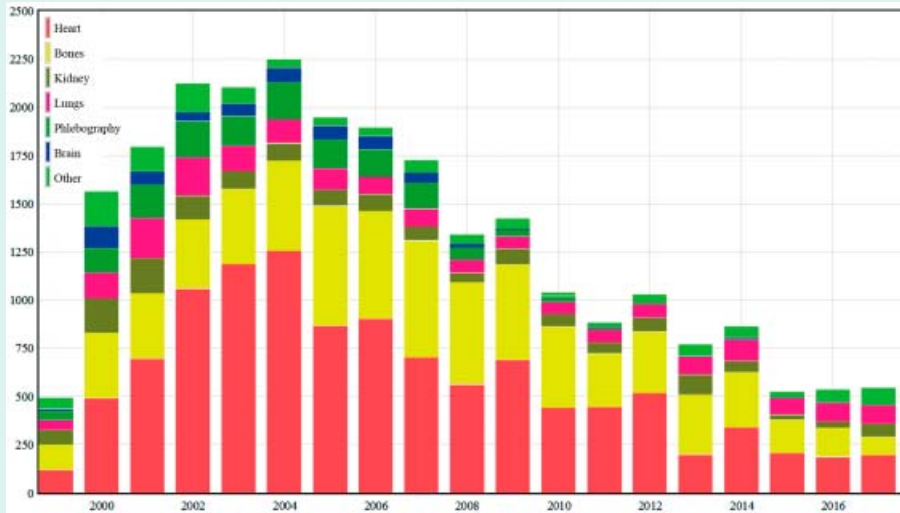
Paramedical staff	1	1.0
General nurse	5	5.0
Medical technologist	5	5.0

The services of the radiological physicist are provided by the Department of Medical Physics.

Performance overview

Scintigraphy

Number of examinations: 520 (no change as compared to the preceding year). All examinations are performed using a dual-detector camera Siemens E.CAM.



SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

Positron emission tomography

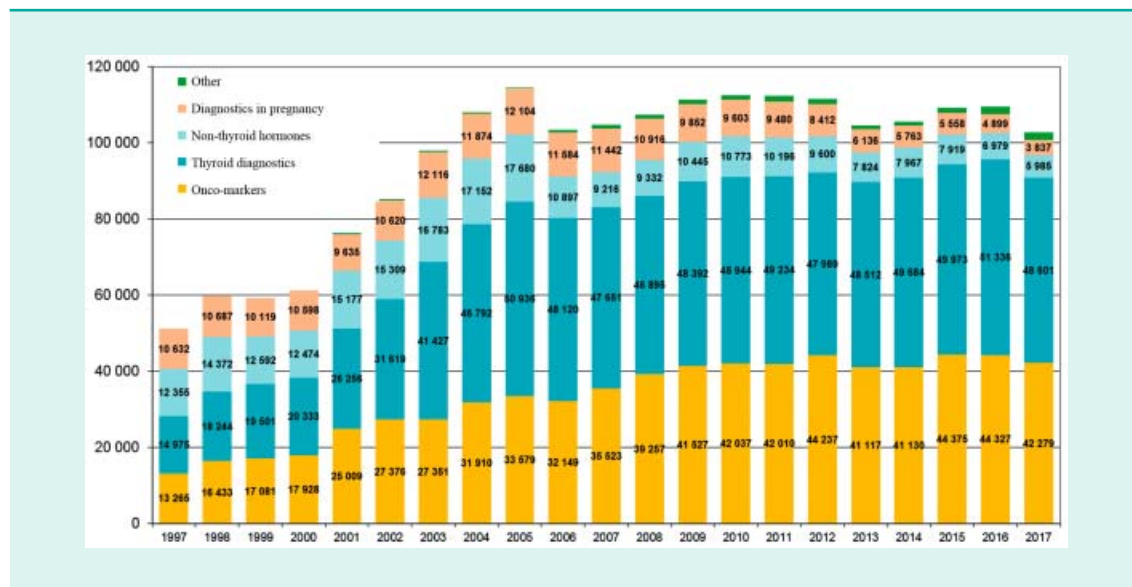
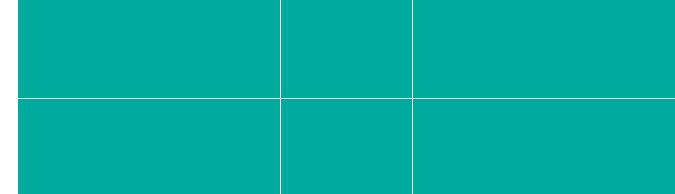
Number of examinations: 7,664 (an increase of 2.5% as compared to the previous year caused by an increased interest in brain amyloid PET for clinical studies). All examinations were performed using two hybrid Siemens Biograph PET/CT scanners, one of which was replaced during the year.



Laboratory testing methods

Number of procedures: 135,248 (a decrease of 6.0% as compared to the preceding year). Number of detections: 102,733 (a decrease of 6.2% as compared to the preceding year). Tests are performed by means of RIA (5%), IRMA (35%) and chemoluminescence (60%) methods.

SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES



Activity evaluation

- In 2017, the work productivity in the field of PET diagnostics was again quite high compared to other domestic and foreign centers, reaching almost 7,500 examinations annually. The Department uses two hybrid Biograph PET/CT scanners (Siemens). One of them was replaced within a record-taking term at the turn of July and August, so the production failure of one scanner lasted for only 3 weeks and the operation of the other scanner was not affected at all. At the same time a radiopharmaceutical dosing station was replaced and a radiopharmaceutical application station was installed. Due to opening three PET/CT units in the covered territory, the availability of examinations has increased and the waiting time has shortened to several days. Despite this fact, the historical maximum number of examinations of the previous year was exceeded. The examination method for dementia patients has been fully developed both for health indications, and especially within clinical studies for brain beta-amyloid. The Department became known for this diagnostics internationally.



SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

- Conventional scintigraphy diagnostics has stagnated for three years after its overall long-term trend of decreasing interest in this examination. Interest in bone scintigraphy has been further decreasing as it has been gradually replaced with PET/CT diagnostics: in contrast, the development of urology in the hospital has had a positive effect on a higher number of kidney scintigraphies. A long-term failure of the ergometer in the Department of Cardiology has had a negative effect on the offer of myocardial perfusion examinations.
- After 4 years of continual growth of interest in immunoanalysis detections, it decreased by 6%. This was partly affected by the restructuring of the provision of prenatal diagnostics in the Prague area, partly by a reduction of the Department of Gynecology and the endocrinology outpatient unit, and partly by the overall lower number of laboratory examinations being requested across the hospital. The laboratory's cooled centrifuges were replaced. The results of regular independent interlaboratory inspection and accreditation by the Czech Accreditation Institute (ISO 15189:2013) document the traditionally high quality of the laboratory over the long term.
- The personnel situation in the Department was stabilized; the departure of two non-medical technicians to the General Teaching Hospital was immediately compensated for by the return of two non-medical technicians from the Proton Center in Prague, which they had previously left for. An employee returning after maternity leave filled the position of the head lab technician who retired.
- Tender procedures for the supply of kits with analyzers for the immunoanalysis laboratory were not completed last year due to the death of the supplier of the laboratory information system related to analyzers. Cooperation has been established with the Department of Clinical Biochemistry, Hematology and Immunology in the preparation of the tender for a new laboratory system.
- The Department as a whole has an established certified system of quality management pursuant to ISO 9001 and a supervisory audit was successfully completed in the middle of the year. The Department, as part of the hospital, follows international JCI accreditation standards.

Educational and other specialized activities

Study visits for a number of experts are organized in the Department and consultation services are provided as part of the model project of the International Atomic Energy Agency (IAEA).

Development perspectives for 2018

- The plan is to make use of all technologies installed in the Department in the scope defined by the reimbursements received from healthcare insurance companies. Above the framework of this assignment, examinations for numerous clinical studies will be further carried out. Emphasis will be put on the quality and efficiency of the services provided. It is expected that waiting times for PET/CT will be slightly prolonged due to the gradual extension of indications for examinations.

SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

- A tender procedure for a laboratory information system is expected to be announced, and subsequently renewal of the tender for supplying kits and analyzers for the immunoanalysis laboratory. Should the tender for the supply of material for immunoanalysis be successfully completed, a major change in the configuration of the work of the laboratory will have to be made, requiring enormous staff efforts in setting up new examination procedures.
- A reduction in working time of one of the physicians related to her retirement age is compensated for by the return of another physician from maternity leave. However, in April, it is expected that another physician will leave for maternity leave, which will result in a significant burden on the remaining physicians; the Department is actively seeking a physician to complete the team.
- A supervised audit of the entire Department in accordance with ISO 9001:2015 is planned for the middle of the year. Reconstruction of the PET Center building is being considered, to start at the end of the year. Although details of it remain unknown, numerous negative influences which will need to be overcome can be expected.

Department of Clinical Biochemistry, Hematology and Immunology

Head of Department: Luděk Táborský, MD

Sections of the Department

Clinical Biochemistry
Hematology
Transfusion unit and blood bank
Immunology
Laboratory of molecular diagnostics

Staff

Number of physicians	8
Number of other graduate staff	10
Number of general nursing staff	37
Number of auxiliary nursing staff	7
Number technical and administrative staff	6
Total number of employees	68

Activities of the Department

- Routine measuring and consultation activities within Na Homolce Hospital and the catchment area (Prague 5, 6 and 7) in the following specializations: clinical biochemistry, clinical hematology, clinical immunology and allergology, blood transfusion, clinical pharmacology, and molecular genetic diagnostics.
- Outpatient unit activities in the field of lipid metabolism disorders (3 units + Club for parents and children who suffer from hypercholesterolemia) and hematology outpatient units.

SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

In 2017, 8 internal audits were performed. No non-conformity card was issued in these audits. Recommendations were defined, most of which have been accepted and partly or completely into practice. Recommendations related to modifications in request forms and result sheets will be covered by the new laboratory information system (LIS) which will be installed during Q1 of 2018. The acid-based balance analyzers located in the ICU were replaced. The Department of Clinical Biochemistry, Hematology and Immunology adhered to the planned budget for this year in economic terms.

Clinical Biochemistry

The section provides routine biochemical services for clinical units of the hospital concentrating on the diagnostics and treatment of critically ill patients from all departments. Bedside examination (POCT – point of care testing) of pH balance, selected minerals and glycemia are carried out for inpatients in a critical condition. Analysis of minerals, enzyme activity, substrate concentrations, cardio-marker levels, amino acids, selected pro-hormones, vitamins, full range of lipids, levels of drugs and their metabolites, including pharmacokinetic analysis of concentrations measured, is performed for all patients. The Department also provides services for physicians in the catchment area (Prague 5 and 6) within material delivery.

The acid-base balance analyzers located in the ICU were replaced. These new RapidPoint 1200 analyzers (Siemens) are remotely managed by the laboratory using RapidComm software.

Hematology

Similarly to the clinical biochemistry section, the hematology section provides routine services to clinical departments. It performs specialized examinations of coagulation parameters for hospital departments. The laboratory was involved in tender procedures and their implementation into the current work system in 2017. A new coagulation meter (Sysmex) has been put into service.

Transfusion unit and blood bank

The unit ensures the supply of blood and blood derivatives to hospital clinical departments. The unit was involved in tender procedures and announcement of tenders and their implementation into the current work system in 2016.



SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

Immunology

The immunology laboratory carries out a wide range of examination methods for both humoral and cellular immunity, autoimmune status of organs and systems, and for allergies. It specializes in the diagnosis of sepsis in patients in a critical condition. The Allergy and Clinical Immunology outpatient unit takes care of patients with allergies, immunodeficiencies and immunopathological conditions. It performs the modern outpatient examination method of asthma control in patients who suffer from bronchial asthma, using a non-invasive method where the patient's exhaling function is tested for bronchial hyperactivity. The physicians provide consulting services to hospital inpatient wards in the field of allergy and clinical immunology.

An accreditation of methods using new devices has been supplemented and a tender for flow cytometer has been awarded.

Consultation activities with regard to drug allergies continued to be performed for all regions of the country, as did cooperation with the Department of Cardiology (within the IGA grant agency of the Czech Ministry of Health), Department of Vascular Surgery (the BATAPPA study under an internal grant), Clinic of Anesthesiology and Resuscitation of the 1st Medical School (clinical study on sepsis), and participation in the educational activities of the Institute of the 2nd Medical School, Charles University. Lecturing activities and scientific publications are recorded in the database of publication activities of Na Homolce Hospital.

Laboratory of molecular diagnostics

The Laboratory of Molecular Diagnostics uses molecular genetics to diagnose hereditary diseases and genetic predisposition to common and serious diseases. Within the hospital, it specializes in issues according to the interest of individual hospital departments and according to the development plan. In addition to routine diagnostics, the laboratory also participates in clinical research projects. Successful external quality audits of molecular diagnostics of selected diseases were performed in the laboratory. A diagnostic method for the detection of 1p/19q codeletions for tumors of the central nervous system was developed in 2017. This diagnostic method should be implemented as a routine examination method in the laboratory in the next year.

Outlook for 2018

In 2018, the Department plans to introduce a new information system and continue tenders for biochemistry, immunology and hematology analyzers. Another plan is to gain at least one research project within research and science support at Na Homolce Hospital. The Department will work to renew the accreditation granted by the Czech Accreditation Institute this year.

SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

Economic results for 2017

In 2017, the Department recorded a decrease in the number of procedures compared to 2016 which, however, was not followed by a decrease in costs. The number of tests/points for inpatients was stable and the number of outpatient points decreased. This is an undesirable development in terms of the hospital's economy. As this trend also been confirmed in previous years, it is necessary to undertake structural and organizational measures. However, economic overviews clearly show that the Department of Clinical Biochemistry, Hematology and Immunology continues to be profitable thanks to the higher refund of points for individual laboratories.

Production of points



SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

Efficiency of the DCBHI (regardless of the fact that inpatient part is paid in a different way)

Year	Points	Costs	Cost-efficiency	Efficiency
2017	166,632,870	156,993,559	15,720,287	10%

Educational and other specialized activities

- Nationwide training and reference activities: Training center of the subdepartment of the Institute for Further Training in Healthcare for clinical immunology and allergy; training center of the Department of Clinical Biochemistry of the Institute for Further Training in Healthcare for automated urine sediment analysis systems; center for further training in the field of hereditary metabolic disorders and lipid metabolism disorders; PhD training center; participation in the training provided at the Immunology Institute of the 2nd Medical School, Charles University
- Membership of professional associations: Czech Medical Association of J. E. Purkyně, Czech Society of Clinical Biochemistry, Czech Society for Atherosclerosis, Czech Society of Allergology and Clinical Immunology, Czech Immunological Society, Czech Neurological Society, Czech Society for Clinical Cytology, Czech Society for Liquorology and Neuroimmunology, Czech Pediatric Society, European Atherosclerotic Society, Immunocompromised Host Society, EFNS Scientific Panel for CSF, European CSF Consensus Group, Society for Study of Inborn Errors of Metabolism, American Association of Clinical Chemistry, American Heart Association, International Federation of Clinical Chemistry, International Society for Newborn Screening, European Society for Newborn Screening

SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

Department of Clinical Microbiology and Antibiotic Center

Head of Department: Václav Vaniš, MD

Clients:

- Na Homolce Hospital
- External clients

Number of external healthcare facilities and practices

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Number of facilities	187	185	217	177	163	141	132	107	101	103	95	97	89	76	77

Laboratory diagnostics

Requests for microbiology examinations for Na Homolce Hospital

Year	Bacteriology	Serology	Total
2003	45,952	15,194	61,146
2004	54,306	17,238	71,544
2005	51,582	15,506	67,088
2006	54,726	16,511	71,237
2007	65,033	18,485	83,518
2008	68,559	18,014	86,573
2009	58,770	10,884	69,654

SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

2010	55,507	10,507	66,014
2011	55,648	11,835	67,483
2012	68,246	13,973	82,219
2013	71,966	14,169	86,135
2014	57,130	11,474	68,604
2015	55,921	10,949	66,870
2016	57,478	10,368	67,846
2017	59,250	10,754	70,004

Requests for microbiology examinations for external clients

Year	Bacteriology	Serology	Total	Number of practices
2003	47,969	9,989	57,958	187
2004	54,209	11,889	66,098	185
2005	49,001	10,290	59,291	217
2006	35,680	6,460	42,140	177
2007	36,687	6,631	43,318	163
2008	40,086	7,595	47,681	141
2009	33,564	4,705	38,269	132
2010	18,876	3,624	22,500	107
2011	17,804	3,409	21,213	101
2012	25,144	3,381	28,525	103
2013	23,218	3,261	26,479	95
2014	17,353	2,376	19,729	97

SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

2015	15,738	2,447	18,185	89
2016	15,509	2,391	17,900	76
2017	13,012	2,216	15,228	77

Requests for microbiological tests - total

Year	Bacteriology	Serology	Total
2003	93,921	25,183	119,104
2004	108,517	29,133	137,650
2005	100,583	25,796	126,379
2006	90,406	22,971	113,377
2007	101,722	25,122	126,844
2008	108,646	25,613	134,259
2009	92,341	15,591	107,932
2010	74,387	14,141	88,528
2011	73,453	15,257	88,710
2012	93,396	17,373	110,769
2013	95,189	17,451	112,640
2014	74,502	13,935	88,437
2015	71,659	13,403	85,062
2016	72,994	12,770	85,764
2017	72,263	12,772	85,232

SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

Antibiotic Center

Consultations provided to inpatients of Na Homolce Hospital

Year	Number of consultations	Number of patients consulted (total number)
(total number)	6,960	1,559
2004	7,291	1,622
2005	8,493	1,833
2006	7,922	1,870
2007	8,122	1,964
2008	7,847	2,006
2009	8,026	1,936
2010	8,049	2,051
2011	8,837	2,266
2012	9,280	2,782
2013	10,021	3,004
2014	10,215	2,478
2015	10,599	2,654
2016	11,388	2,798
2017	10,885	2,879

SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

Public activities

- **Working group for antibiotic resistance monitoring:** The Department is part of the group of laboratories monitoring resistance to antibiotics in the Czech Republic. The head of the Department is a member of the working group for antibiotics resistance monitoring.
- **The National Reference Center for Infections Associated with Healthcare of the National Institute of Public Health:** The head of the Department is a member.
- **Society for Medical Microbiology of the Czech Medical Association of the J. E. Purkyně:** The head of the Department is a member of the committee of the Society.

Comments

- **Laboratory diagnostics:** In 2017, the number of requests for laboratory microbiological examinations was the same as in the previous year. There was no change in the number of cooperating healthcare facilities (practices): the number of examinations performed for external clients decreased.
- **Antibiotic Center:** The number of consultations provided and patients in 2017 was comparable with the previous year. No significant epidemiological changes in the resistance of infection originators were recorded.
- **Infection prevention and control:** In 2017, there was a slight increase in the incidence of nosocomial bloodstream infections in certain departments and patient subgroups. The number of patients colonized or infected by MRSA increased as compared to the previous year, while the number of MRSA transmissions during hospitalization in Na Homolce Hospital decreased. There was an increase in the number of infections caused by *Clostridium difficile*.
- **Operational and economic parameters:** The operation and economic parameters of activities of the Department were stable and comparable with 2016.
- **Certification and accreditation:** The Department received accreditation under the requirements of the ČSN EN ISO 15189:2013 standard and holds an accreditation certificate for examinations in the field of clinical microbiology.
- **External activities:** The Department has cooperated with the National Reference Center for Infections Associated with Healthcare within the National Institute of Public Health. The Department is involved in teaching nurses and physicians in the field of infection control organized by the National Reference Center for Infections Associated with Healthcare, which is part of the State Healthcare Institute. The Department participated in the EARS-Net (European Antimicrobial Resistance Surveillance Network) and HAI-Net (Healthcare-Associated Infections Network) programs, which are organized by the European Center for Disease Prevention and Control (ECDC, Stockholm). The Department participates in the Euro-GASP program, as well as in the surveillance program for *Gonococcus* antimicrobial resistance organized by the European Center for Disease Prevention and Control (ECDC, Stockholm). The Department cooperates with the Higher Nursing School in Prague at Alšovo nábřeží in providing training to laboratory technicians.

Department of Pathology

Head of Department: Martin Syřůček, MD

Activities of the Department

The Department carries out all bioptic and cytological diagnoses within Na Homolce Hospital and, in cooperation with other laboratories providing complementary services, provides some bioptic and cytological diagnoses to selected private and state healthcare facilities in Prague. Recently, consultations (second reading) of diagnostically difficult neuropathological biopsies for departments of pathology in the entire country have been provided. In addition, the Department is in charge of necroptic activity (autopsies), including organizational services when delivering bodies to the funeral service. The Department organizes clinical pathology workshops with the analysis of selected autopsies and biopsies for individual clinical departments in order to increase the quality of the medical care provided.

Organizational units of the Department

The Department performs its activities as a whole and is not comprised of individual organizational units or cost centers. The newly reconstructed premises are, however, divided into a histology and cytology laboratory and a special methods laboratory (immunohistochemistry).

Basic data

Staff

- 5 physicians working full-time and one physician working part-time (0.5 FTE based on a contract for work)
- 8 lab technicians working full-time, one member of paramedical staff and one laboratory technician working part-time (0.5 FTE based on a contract for work)
- 1 autopsy technician working full-time
- 2 secretaries (assistants) working full-time and one retired person working part-time (0.5 FTE based on a contract for work)
- 1 quality manager in charge of the requirements of the Department in connection with JCI accreditation processes and ISO 15189

SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

Premises

Since 2009, the Department has had newly reconstructed premises at its disposal, the arrangement and equipment of which comply with the standard ISO 15189. They include:

- Administrative section with 5 offices for physicians, one office for the senior laboratory technician and quality manager, administrative offices, rooms for employees, changing rooms, storerooms for preparations and workshop rooms,
- The autopsy unit with a dissection room, preparation rooms and cooling equipment with 20 units for the deceased (these premises are separated by a sanitary filter),
- Laboratory premises (also separated by a sanitary filter) with 6 rooms - histology laboratory, cytology laboratory, special methods laboratory, laboratory for cutting materials fixed in formol-saline, laboratory for cutting materials using microtomes, and a cytology screening room.

Performance overview

Biopsy diagnostics

	2005	2009	2011	2012	2014	2015	2016	2017
Number of examinations	19,546	21,831	22,670	21,643	20,817	22,525	20,970	21,329
Number of slides	49,290	58,429	61,631	65,890	63,972	65,489	61,401	64,155

Cytological diagnostics

	2005	2009	2011	2012	2014	2015	2016	2017
Number of examinations	5,349	2,738	2,153	2,205	1,993	1,992	2,249	2,249
Number of slides	11,744	6,214	5,092	4,932	4,365	4,392	5,191	5,191
BAL (bronchoalveolar lavage)			187	162	121	107	114	114

There was a slight increase in the number of biopsy examinations in 2017, while the number of cytological examinations insignificantly decreased. In 2016, the Department laboratory increased the number of immunohistochemistry examinations, due to the complicated diagnostics of the tested samples and the necessity to increase the accuracy of tumor lesion classification.

SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

Autopsy activities

	2005	2009	2011	2012	2014	2015	2016	2017
Number of the deceased	286	270	226	216	225	196	233	226
Number of autopsies	248	154	136	122	123	122	136	121

The autopsy rate for 2017 amounts to 53.5%

Workshops

In 2015, the physicians of the Department attended 94 clinical pathological conferences, where 26 autopsy and 692 biopsy cases were discussed.

	2005	2009	2010	2012	2014	2015	2016	2017
Number of workshops	127	85	98	88	102	95	94	114
Number of autopsy cases	65	82	27	20	22	21	19	26
Number of biopsy cases	377	684	612	843	837	753	701	692

Since 2002 the Department has organized, in addition to clinical and pathological workshops, regular weekly multidisciplinary mammology workshops with the attendance of a surgeon, radiologist and oncologist, focused on the analysis of biopsy examinations based on the clinical picture, together with analysis of therapeutic and prognostic outlooks. Workshops are also organized once a week or once every two weeks in cooperation with the ENT Department and clinical and pathological workshops with the Center for Pulmonary Endoscopy, according to the need of clinicians. Regularly once a week, the staff participate in neuro-oncological workshops with physicians from neurosciences, oncologists from the Teaching Hospital in Motol and radiologists, to discuss all biopsy cases from the preceding period. Since the second half of 2017, our physicians have participated in surgical-oncological workshops once a week. Workshops with other specializations are organized as needed, as a rule twice a year: clinical pathological workshops together with the Department of Cardiac Surgery are organized once a month. These workshops are part of the further training program of clinical departments, aimed at increasing the quality required under the accreditation standards.

SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

Significant changes and events

- ČIA - ISO accreditation: The Department of Pathology obtained renewed accreditation from the Czech Accreditation Institute (ČIA) - ISO 15189:2013 - in May 2015. A supervision procedure is successfully performed every year.
- JCI accreditation: The Department of Pathology as part of Na Homolce Hospital participated in successful JCI reaccreditation in May 2017.
- External quality assessment: Since 2011, the pathology laboratory has participated in external quality assessment in cooperation with the contractual company SEKK spol. s.r.o. The Department of Pathology obtained the certificate. Further assessment is performed by means of sent consultations and interlaboratory comparisons.
- As part of the Center for Neuro-Oncology section of the Czech Society for Oncology of the Czech Medical Association of J. E. Purkyně, the Department performs biobanking of brain tumors for research purposes.
- Since 2016, examinations have been performed of the sentinel lymph node in selected patients with breast cancer in cooperation with the Department of General Surgery, Department of Nuclear Medicine and PET Center).
- On March 27, 2017 the department obtained accreditation for the teaching program of medical specialities in the field of pathology from the Czech Ministry of Health.

Development perspectives for 2018

- We will maintain and further improve the standard of diagnostics and clinical and pathological workshops.
- The range of immunohistochemical antibodies has been extended according to the needs of individual hospital departments.
- The Department will introduce immunohistochemical devices in order to improve and speed up diagnostics using immunohistochemical methods.
- In cooperation with the molecular diagnostics laboratory at Na Homolce Hospital, the classification of brain tumors according to the new histological and molecular WHO classification will be introduced.

Department of Biomedical Engineering

Head of Department: Ing. Miroslav Halíř

The main task of the Department is to ensure the operation and servicing of medical equipment and measuring instruments at Na Homolce Hospital, including the Spa Resort Mánes in Karlovy Vary. Other activities include monitoring new trends in biomedicine and of technical documents for tenders for new medical device equipment. The Department also prepares applications to commissions for the assessment of the deployment of medical instrument funds from the Czech Ministry of Health.

The Department of Biomedical Engineering at Na Homolce Hospital is an accredited facility of the Czech Ministry of Health for postgraduate teaching of the Institute for Further Training in Healthcare, including specializations in biomedical engineering in the Czech Republic. In 2017, it also participated in undergraduate teaching at the Faculty of Electrical Engineering, Czech Technical University in Prague, the Faculty of Biomedical Engineering, Czech Technical University in Prague, and the Technical University in Liberec.

Prevention and Maintenance Section

This section carries out preventive safety inspections of medical devices as stipulated by Act No. 268/2014 Coll., on Medical Devices, as amended, as well as by JCI standards. It carries out regular internal maintenance, ensures timely prevention and servicing by external equipment providers and keeps documentation on all medical devices. This section also ensures the preparation and use of diagnostic, therapeutic and laboratory equipment and provides technical help for the implementation of new medical equipment. It follows new developments in the field of medical equipment and devices, and covers navigation systems in neurosurgery, auto-transfusion for cardiac and vascular surgery, and the calibration of anesthesia equipment. In addition, it cooperates with clinical departments in preparing technical specifications for public tenders. The head of the section is Ing. Luděk Ruffer.

Metrology Section

This section makes sure that the metrology standards at Na Homolce Hospital comply with Act No. 505/1990 Coll., on Metrology, as amended, and the related metrology regulations. The above legislation requirements are an essential part of the Metrology Order directive, which stipulates the responsibilities, rights and obligations of employees in the use of measuring instruments and metrology safety with regard to the accuracy and reliability of the measurements of all measuring instruments in all activities of the hospital. The Metrology Section carries out general maintenance

SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

and internal calibration of instruments measuring temperature and pressure and ensures the external benchmark calibration of working instruments measuring weight, length and time. It also organizes external official verification of the measuring devices of temperature and weight and eye tonometers. The Authorized Metrology Center is an essential part of the Metrology Section and provides official verification of the measuring instruments for indirect measurement of pressure – tonometers, within the scope of Decision No. 61/2000 of the Office for Standards, Metrology and Testing. The head of the section is Zdeněk Malý.

Spa Resort Mánes in Karlovy Vary (Carlsbad)

Manager of Spa Resort: Alena Hynštová

Department's activities

The Mánes Spa Resort provides spa therapeutic and rehabilitation treatment to pediatric, adolescent and adult patients, both insured and paying. Its accredited indicated focus includes three groups of diseases characteristic of Karlovy Vary: diseases of the digestive tract, metabolic and endocrine diseases and disorders, as well as diseases of the musculoskeletal system. In addition to the comprehensive and partially funded spa care for clients of all health insurance companies, the Mánes Spa Resort offers curative, reconditioning, special and wellness stays to both domestic and foreign private clients. It also uses its available accommodation capacities for the provision of hotel services to a lesser extent. A total of 2,552 patients were treated in the Spa Resort in 2017 (of which 584 were pediatric patients); clients of health insurance companies comprised 773 patients (of which 420 were pediatric patients). In 2017, a total of 55,000 treatment procedures were provided.

As in the previous years, the Spa Resort Mánes in 2017 reached an important position in spa care for pediatric patients with alimentary tract diseases and diabetes mellitus. While it cares for more than half of the total pediatric patients treated in the spas of the Czech Republic, it looks after almost 100% of pediatric and insured patients suffering from diabetes.

Since the beginning of 2017, we have implemented the nationwide Children at the Starting Gate program in the spa treatment protocol (we have established our own unit in which 127 children were involved in the program), and children's yoga classes have been newly included in the spa treatment program.

The Screening DMT2 in Children longitudinal study has have continued in the spa facility for the third year. In 2017, the pediatric section of the Spa Resort established cooperation with the Czech Society for Nutrition (active presentations at conferences). We also presented the Spa Resort in the media (Blesk, Motal Monthly and Revue 50 plus).

Educational activities

As every year, the Spa Resort simultaneously organised a specialized Nursing Working Days in Diabetology conference and a Forum for members of the Diabetes Section, on November 24-25, 2017. The guarantor of the event was the endocrinologist Jiří Souček, MD.

SCIENCE AND RESEARCH



SCIENCE AND RESEARCH

Na Homolce Hospital has fulfilled the definition of an organization for research and knowledge dissemination according to Commission Regulation (EU) No. 651/2014, Art. 2, Point 83, and has been included on the list of research organizations kept by the Ministry of Education, Youth and Sport on the basis of Section 33a of Act No. 130/2002 Coll., on Research and Development Support.

Research and development at Na Homolce Hospital are supported by means of combined financing – institutional support from the Czech Ministry of Health and targeted support grants which are provided to projects carried out both by individual departments of the hospital and in cooperation with a number of excellent research facilities across the entire country. The majority of research teams have also been involved in clinical studies over a long period of time, with the Cardiac Center having the largest share in these studies.

The organization is managed by the Department of Research and Development which covers the fields of grant projects, clinical studies and the medical library. The medical library obtains and provides information especially in the main disciplines of the hospital. Its fund includes 11,000 library units, of which 35 are Czech and 20 foreign professional periodicals in any year.

Grant projects

In 2017, Na Homolce Hospital managed a total of 50 grant projects, of which 44 were supported by the institutional support of the Czech Ministry of Health, and 6 targeted support grants were supported by the Agency for Medical Research of the Czech Ministry of Health and the Czech Grant Agency.

Grants from the Czech Ministry of Health

- In 2017, Na Homolce Hospital received institutional support for the long-term conceptual development of the research organization, based on the decision of the Czech Ministry of Health (Decision No. 2 RVO-NNH/2017). The support was used and distributed based on the functional system of internal grants, their assessment by a specialized commission and approval by the Scientific Board and the hospital Director.
- In line with the guidelines of the Czech Ministry of Health, 9 research projects which started in 2014, 11 research projects initiated in 2015, 11 projects initiated in 2016 and 13 new projects were supported in 2017 by the institutional support of the Czech Ministry of Health for 2017. Na Homolce Hospital again supported a large spectrum of research projects in order to maintain the plan of a broader research basis for the coming years which fully corresponds with the method of evaluation by research institutions used for providing grants. The implementation of new research projects started in May 2017 and continues at present.

Special purpose grants of the Agency for Medical Research of the Czech Ministry of Health and the Czech Grant Agency

Principal Investigator in NHH	Department	Project title	Allocated number	Grant provider (main beneficiary)
MUDr. Robert Tomáš, Ph.D.	Neurosurgery	New concepts of therapeutic focus of human glioblastoma microenvironment	15-31379A	AZV MZ ČR (General Military Hospital in Prague)
prof. MUDr. Petr Neuzil, CSc., FESC	Cardiology	Catheter LAA closure vs. therapy based on new oral anticoagulant drugs in high-risk patients with AF (study PRAGUE-17)	15-29565A	AZV MZ ČR (3rd Medical School)
doc. MUDr. Petr Ošťádal, Ph.D.	Cardiology	Extracorporeal membrane oxygenation in the treatment of cardiogenic shock (study ECMO-CS)	15-27994A	AZV MZ ČR (NNH)
MUDr. Dušan Uργοšík, CSc.	Stereotactic and Radiation Neurosurgery	Micro- and macroconectomy of subthalamic nucleus in humans: effect of neuromodulation and dopamine depletion	16-13323S	GA ČR (1st Medical School)
prof. MUDr. Robert Jech, Ph.D.	Radiodiagnostics	Diagnostic neurophysiological and laboratory markers and pathophysiological mechanisms of functional movement disorders	16-29651A	AZV ČR (General Teaching Hospital)
MUDr. Martin Kovář	Neurology	Morphological characteristics of atherosclerotic plaque in the carotid artery associated with plaque progression and risk of brain stroke	17-31016A	AZV ČR (General Military Hospital in Prague and General Teaching Hospital)

SCIENCE AND RESEARCH

Clinical studies

In 2017, a total of 124 active clinical studies were recorded, of which 16 clinical studies were completed during 2017.

Number of studies performed in 2017 – by subject and department:

Clinical studies	Medical devices	Medicines	Partial healthcare services	Total number	
Internal medicine	0	1	0	1	1%
Cardiology	54	7	0	61	49%
Cardiac surgery	8	2	0	10	8%
Neurosurgery	2	0	0	2	2%
Neurology	0	1	0	1	1%
Gynecology	1	0	0	1	1%
Oncology	0	5	0	5	4%
Radiodiagnostics	2	2	5	9	7%
Nuclear medicine / PET	0	0	30	30	24%
Pharmacy	0	0	4	4	3%
Total	67	18	39	124	100%

Performed audits of clinical studies

In 2017, seven audits of clinical studies were performed by the State Institute for Drug Control – SÚKL):

01/2017	SÚKL audit	Clinical study AB08026	Pending
03/2017	SÚKL audit	Clinical study TRAC-AF	Results irregularities
07/2017	SÚKL audit	Clinical study VALUE	Results irregularities
11/2017	SÚKL audit	Clinical study NPC01PRG	Results irregularities
11/2017	SÚKL audit	Clinical study AB08026	Pending
11/2017	SÚKL audit	Clinical study HELI-169	Results irregularities
12/2017	SÚKL audit	Clinical study VenTouch CT004	Results irregularities

Summary

Basic breakdown of research projects in Na Homolce Hospital in 2017:

Scientific project type	Subject	Number
Clinical study	Medical devices	67
	Medicines	18
	Partial healthcare services for external investigators	39
Research grants	Institutional support (internal grants)	44
	Special purpose support (external grants)	6
Research projects - total		174

PUBLICATIONS IN 2017

Publications co-authored by Na Homolce Hospital staff

Foreign

Articles published in IF journals

- 1) BAKŠTEIN, E. - SIEGER, T. - WILD, J. - NOVÁK, D. - SCHNEIDER, J. - VOSTATEK, P. - URGOŠÍK, D. - JECH, R. Methods for automatic detection of artifacts in microelectrode recordings. *Journal of Neuroscience Methods*. 2017, vol. 290, p. 39-51. ISSN 0165-0270.
- 2) BIASE, di L. - TUNG, R. - SZILI-TOROK, T. - BURKHARDT, J. D. - WEISS, P. - TAVERNIER, R. - BERMAN, A. E. - WISSNER, E. - SPEAR, W. - CHEN, XU - NEUŽIL, P. - SKODA, J. - LAKKIREDDY, D. - SCHWAGTEN, B. - LOCK, K. - NATALE, A. MAGNETIC VT study: a prospective, multicenter, post-market randomized controlled trial comparing VT ablation outcomes using remote magnetic navigation-guided substrate mapping and ablation versus manual approach in a low LVEF population. *Journal of Interventional Cardiac Electrophysiology*. 2017, vol. 48, no. 3, p. 237-245. ISSN 1383-875X.
- 3) BIASE, di L. - BURKHARDT, D. - REDDY, V. - ROMERO, J. - NEUZIL, P. - PETRU, J. - SADIVA, L. - SKODA, J. - VENTURA, M. - CARBUCICCHIO, C. - RUSSO, DELLO A. - CSANADI, Z. - CASELLA, M. - FASSINI, M. G. - TONDO, C. - SACHER, F. - THERAN, M. - DUKKIPATI, S - KORUTH, J. - JAIS, P. - NATALE, A. Initial international multicenter human experience with a novel epicardial access needle embedded with a real-time pressure/frequency monitoring to facilitate epicardial access: Feasibility and safety. *Hearth Rhythm*. 2017, vol. 17, no. 7, p. 981-988. ISSN 1547-5271.
- 4) BOERSMA L., V - BARR S., C. - BURKE M., C. - LEON R., A. - THEUSN, D. A. - HERRE, J. M. - WEISS, R. - KREMERS, M. S. - NEUŽIL, P. - HUSBY, M. - CARTER, N. - STIVLAD M., T. Performance of the subcutaneous implantable cardioverter-defibrillator in patients with a primary prevention indication with and without a reduced ejection fraction versus patients with a secondary prevention indication. *Heart Rhythm*. 2017, vol. 14, no 3, p. 367-375. ISSN 1547-5271.
- 5) BOERSMA, L. - BARR, C. - KNOPS, R. - THEUNS, D. - ECKARDT, L. - NEUZIL, P. - SCHOLTEN, M. - HOOD, M. - KUSCHYK, J. - JONES, P. - DUFFY, E. - HUSBY, M. - STEIN, K. - LAMBIASE, P. D. Implant and midterm outcomes of the subcutaneous Implantable Cardioverter-Defibrillator Registry: The EFFORTLESS Study. *Journal of the American College of Cardiology*. 2017, vol. 70, no. 7 p. 830-841. ISSN 0735-1097.
- 6) BONNET, C. - RUSZ, J. - HANUŠKA, J. - DEZERTOVÁ, M. - JÍRŮ, F. - SIEGER, F. - JECH, R. - KLEMPÍŘ, J. - ROTH, J. - BEZDÍČEK, O. - SERRA-NOVÁ, T. - DUŠEK, P. - UHER, T. - FLAMMAND-ROZE, C. - HÁJEK, M. - RŮŽIČKA, E. GABA spectra and remote distractor effect in progressive supranuclear palsy: A pilot study. *Revue neurologique*. 2017, Vol. 173, p. 225-229. ISSN 0035-3787.

PUBLICATIONS IN 2017

- 7) CENZATO, M. - BOCCARDI, E. - BEGHI, E. - VAJKOCZY, P. - SZIKOVA, I. - MOTTI, E. - REGLI, L. - RAABE, A. - ELIVA, S. - GRUBER, A. - MELING, T. - NIEMELA, M. - PASQUALIN, A. - GOLANOV, A. - KARLSSON, B. - KEMENY, A. - LISCAK, R. - LIPPITZ, B. - RADATZ, M. - CAMERA, Ia A. - CHAPOT, R. - ISLAK, C. - SPELLE, L. - DEBERNARDI, A. - AGOSTONI, E. - REVAY, M. - MORGAN, K. M. European consensus conference on unruptured brain AVMs treatment (Supported by EANS, ESMINT, EGKS, and SINCH). *Acta Neurochirurgica*, vol. 159, no. 6, p. 1059-1064. ISSN 0001-6268.
- 8) EL CHAMI, M. - KOWAL, C. R. - SOEJIMA, K. - RITTER, P. - DURAY, Z. G. - NEUŽIL, P. - MONT, L. - KYPTA, A. - SAGI, V. - HUDNALL, H. J. - STROMBERG, K. - REYNOLDS, D. Impact of operator experience and training strategy on procedural outcomes with leadless pacing: Insights from the Micra Transcatheter Pacing Study. *Pace-Pacing and Clinical Electrophysiology*. 2017, vol. 40, no. 7, p. 834-842. ISSN 1540-8159.
- 9) FECIKOVA, A. - CEJKA, V. - CAPEK, V. - URGOSIK, D. - JECH, R. O19 Abnormal interaction between somatosensory and the motor cortex in dystonia not responding to pallidal stimulation. *Clinical Neurophysiology*. 2017, vol. 128, no. 9, p. e186. ISSN 9780750611831.
- 10) FERRARI, de M. G. - STOLEN, C. - TUINENBURG, A. E. - WRIGHT, D. J. - BRUGADA, J. - BUTTER, CH. - KLEIN, H. - NEUZIL, P. - BOTMAN, C. - CASTEL, A. M. - D'ONOFRIO, A. - BORST, de J. G. - SOLOMON, S. - STEIN, M. K. - SCHUBERT, B. - STALSBERG, K. - WOLD, N. - RUBLE, S. - ZANNAD, F. Long-term vagal stimulation for heart failure: Eighteen month results from the NEural Cardiac TherApy foR Heart Failure (NECTAR-HF) trial. *International Journal of Cardiology*. 2017, vol. 244, p. 229-234. ISSN 0167-5273.
- 11) GOELMAN, G. - DAN, R. - RŮŽIČKA, F. - BEZDICEK, O. - RŮŽIČKA, E. - ROTH, J. - VYMAZAL, J. - JECH, R. Frequency-phase analysis of resting-state functional MRI. *Scientific Report*. 2017, vol. 7, article no. 43743. ISSN 2045-2322.
- 12) GRUBMAN, E. - RITTER, P. - ELLIS, CH. - GIOCONDO, M. - AUGOSTINI, R. - NEUŽIL, P. - RAVINDRAN, B. - PATEL, A. M. - OMDAHL, P. - PIEPER, K. - STROMBERG, K. - HUDNALL, H. J. - REYNOLDS, D. To retrieve, or not to retrieve: System revisions with the Micra transcatheter pacemaker. *Heart Rhythm*. 2017, vol. 14, no. 12, p. 1801-1806. ISSN 1547-5271.
- 13) INBAR, O. COHEN - XU, Z. - LEE C. C. - WU, C. C. - CHYTKA, T. - SILVA, D. - SHARMA, M. - RADWAN, H. - GRILLS, I. S. - NGUYEN, B. - SIDDIQUI, Z. - MATHIEU, D. - IORIO-MORIN, C. - WOLF, A. - CIFARELLI, C. P. - CIFFARELLI, D. T. - LUNSFORD, L. D. - KONDZIOLKA, D. - SHEEHAN, J. P. Prognostic significance of corticotroph staining in radiosurgery for non-functioning pituitary adenomas: a multicenter study. *Journal of Neuro-Oncology*. 2017, vol. 135, no. 1, p. 67-74. ISSN 0167-594X.
- 14) IORIO-MORIN, CH. - KANO, H. - HUANG, M. - LUNDFORD, D. L. - SIMONOVÁ, G. - LISCAK, R. - COHEN-INBAR, OR. - SHEEHAN, J. - LEE, CHEN-G-CHIA - WU, HSIU-MEI - MATHIEU, D. Histology-stratified tumor control and patient Survival After Stereotactic Radiosurgery for Pineal Region Tumors: A report from the International Gamma Knife Research Foundation. *World Neurosurgery*. 2017, vol. 107, p. 974-982. ISSN 1878-8750.
- 15) IWASAWA, J. - KORUTH, S. J. - PETRU, J. - DUJKA, L. - KRALOVEC, S. - MZOURKOVA, K. - DUKKIPATI, R. S. - NEUŽIL, P. - REDDY, Y. V. Temperature-controlled radiofrequency Ablation for Pulmonary Vein Isolation in Patients With Atrial Fibrillation. *Journal of the American College of Cardiology*. 2017, vol. 70, no. 5, p. 542-553. ISSN 0735-1097.

PUBLICATIONS IN 2017

- 16) KOLLOVÁ, A.- LIŠČÁK, R. - NOVOTNÝ, J. - VLADYKA, V.- ŠIMONOVÁ, G. - JANOUŠKOVÁ, L. Gamma knife surgery for benign meningioma. *Journal of Neurosurgery*. 2017, vol. 127, suppl. 1, p. 38-49. ISSN 0022-3085.
- 17) KOVARNIK, T. - CHEN, Z. - MINTZ, S. G. - WAHLE, A. - BAYEROVA, K. - KRAL, A. - CHVAL, M. - KOPRIVA, K. - LOPEZ, J. - SONKA, M. - LINHART, A. Plaque volume and plaque risk profile in diabetic vs. non-diabetic patients undergoing lipid-lowering therapy: a study based on 3D intravascular ultrasound and virtual histology. *Cardiovascular Diabetology*. 2017, vol. 16, article no. 156. ISSN 1475-2840.
- 18) KRAMSKÁ, L. - VOJTĚCH, Z.- LUKAVSKÝ, J. - STARÁ, M. - MALÍKOVÁ, H., Five-year neurophysical outcome after Stereotactic Radiofrequency Amygdalohippocampectomy for Mesial Temporal Lobe Epilepsy: Longitudinal study. *Stereotactic and Functional Neurosurgery*. 2017, vol. 95, no. 3, p. 149-157. ISSN 1011-6125.
- 19) LAKKIREDDY, D. - KNOPS, R. - ATWATER, B. - NEUŽIL, P. - IP, J. - GONZALEZ, E. - FRIEDMAN, P. - DAFAYE, P. - EXNER, D. - AONUMA, K. - DOSHI, R. - SPERZEL, J. - REDDY, V. A worldwide experience of the management of battery failures and chronic device retrieval of the Nanostim leadless pacemaker. *Heart Rhythm*. 2017, vol. 14, no. 12, p. 1756-1763. ISSN 1547-5271.
- 20) LIBERTINOVA, J. - MELUZINOVA, E. - MATOSKA, V. - ZAJAC, M. - KOVAROVA, I. - HAVRDOVA, E. - HORAKOVA, D. - TOMEK, A. - MARUSIC, P. - BOJAR, M. MxA mRNA decrease preceding NAb detection in IFN beta-treated MS patients. *Brain and Behavior*. 2017, vol. 7, no. 3, e00644. ISSN 2162-3279.
- 21) LIBERTINOVA, J. - MELUZINOVA, E. - TOMEK, A. - HORAKOVA, D. - KOVAŘOVA, I. - MATOSKA, V. - KUMSTYROVA, S. - ZAJAC, M. - HYNČICOVA, E. - LISKOVA, P. - HOUZVICKOVA, E. - MARTINKOVIČ, L. - NOJAR, M. - HAVRDOVA, E. - MARUSIC, P. Myxovirus resistance protein A mRNA expression Kinetics in Multiple Sclerosis Patients Treated with IFN beta. *Plos One*. 2017, vol. 12, no. 1, article no. e0169957. ISSN 1932-6203.
- 22) LUBANDA, JC - CHOCHOLA, M. - MLČEK, M. - NEUŽIL, P. - MAREK, J. - HAVRÁNEK, Š. - KUCHYNKOVÁ, S. - FINGROVÁ, Z. - HUANG, KA. - LINHART, A. The effect of renal denervation in an experimental model of chronic renal insufficiency, The REMnant kidney Denervation In Pigs study (REDIP study). *Journal of Translational Medicine*. 2017, vol. 15, article no. 215. ISSN 1479-5876.
- 23) MACKU, D. - NOVOTNA, I. Patients above the age of 70 face unjustified discrimination in heart transplants. *European Geriatric Medicine*. 2017, vol. 8, no 5-6, p. 509-510. ISSN 1878-7657.
- 24) MEHTA, U. G. - DING, D. - PATIBANDLA, R. M. - KANO, H. - SISTERTSON, N. - SU, YAN-HUA - KRSEK, M. - NABEEL, N. A. - EL-SHEHABY, A. - KAREEM, A. K. - MARTINEZ-MORENO, N. - MATHIEU, D. - MCSHANE, B. - BLAS, K. - KONDZIOLKA, D. - GRILLS, I. - LEE, Y. J. - MARTINEZ-ALVAREZ, R. - REDA, A. W. - LISCAK, R. - LEE, CHENG-CHIA - LUNSFORD, D. L. - VANCE LEE, M. - SHEEHAN, J. P. Stereotactic radiosurgery for Cushing Disease: Results of an international, multicenter study. *The Journal of Clinical Endocrinology & Metabolism*. 2017, vol 102, no. 11, p. 4284-4291. ISSN 0021-972X.
- 25) MUELLER, K. -JECH, R. - HOSKOVCOVA, M. - ULMANOVÁ, O. - URGOŠÍK, D. - VYMAZAL, J. - RŮŽIČKA, E. General and selective brain connectivity alterations in essential tremor: A resting state fMRI study. *Neuroimage-Clinical*. 2017, vol. 16, p. 468-476. ISSN 2213-1582.

PUBLICATIONS IN 2017

- 26) NAAR, J. - MORTENSEN, L. - WINTER, R. - JOHNSON, J. - SHAHGALDI, K. - MANOURAS, A. - BRAUNSCHWEIG, F. - STAHLBERG, M. Heart rate and dyssynchrony in patients with cardiac resynchronization therapy: A pilot study. *Scandinavian Cardiovascular Journal*. 2017, vol. 51, no. 3, p. 143-152. ISSN 16512006.
- 27) NAAR, M. D. - JAYE, D. - LINDE, C. - NEUŽIL, P. - DOŠKÁŘ, P. - MÁLEK, F. - BRAUNSCHWEIG, F. - LUND, L. H. - MORTENSEN, L. - LINDEROTH, B. - GÖRAN, L. - BONE, D. - SCHOLTE, A. J. - KUEFFER, F. - KOEHLER, J. - SHAHGALDI, K. - LANG, O. - STÅHLBERG, M. Effects of spinal cord stimulation on Cardiac Sympathetic Nerve Activity in Patients with Heart Failure. *Pace-Pacing and Clinical Electrophysiology*. 2017, vol. 40, no. 5, p. 504-513. ISSN 1540-8159.
- 28) NEUŽIL, P. - MARKELY, B. - ERGLIS, A. - MARINSKIS, G. - de GROOT, J. R. - SCHMIDINGER, H. - VENEGAS, R. M. - VOSKUIL, M. - STURMBERGER, T. - PETRU, J. - JONGEJAN, N. - AICHINGER, J. - KAMZOLA, G. - AIDIETIS, A. - GELLÉR, L. - MRAZ, T. - OSZTHEIMER, I. - MIKA, Y. - EVANS, S. - BURKHOFF, D. - KUCK, K. Pacemaker-mediated programmable Hypertension Control Therapy. *Journal of the American Heart Association*. 2017, vol. 6, no. 12, p. 1-14. ISSN 20479980.
- 29) OSMANCIK, P. - TOUSEK, P. - HERMAN, D. - NEUZIL, P. - HALA, P. - STASEK, J. - HAMAN, L. - KALA, P. - POLOCZEK, M. - BRANNY, M. - CHOVANCIK, J. - CERVINKA, P. - HOLY, J. - VANCURA, V. - ROKYTA, R. - TABORSKY, M. - KOVARNIK, T. - ZEMANEK, D. - PEICHL, P. - HASKOVÁ, S. - JARKOVSKY, J. - WIDIMSKY, P. Interventional left atrial appendage closure vs novel anticoagulation agents in patients with atrial fibrillation indicated for long-term anticoagulation (PRAGUE-17 study). *American Heart Journal*. 2017, vol. 183, p. 108-114. ISSN 0002-8703.
- 30) OSTADAL, P. - ROKYTA, R. - KRUGER, A. - VONDRAKOVA, D. - JANOTKA, M. - SMÍD, O. - SMALCOVA, J. - HROMADKA, M. - LINHART, A. - BĚLOHLÁVEK, J. Extra corporeal membrane oxygenation in the therapy of cardiogenic shock (ECMO-CS): rationale and design of the multicenter randomized trial. *European Journal of Heart Failure*. 2017, vol. 19, special issue, suppl. 2, p. 124-127. ISSN 1879-0844.
- 31) PICKOVÁ, T. - MATEJ, R. - BEZDICEK, O. - KELLER, J. - van der ZEE, J. - van BROECKHOVEN, CH. - CSEFALVAY, Z. - RUSINA, R., Genetic Alzheimer Disease and sporadic dementia with Lewy Bodies: A comorbidity presenting as Primary Progressive Aphasia. *Cognitive and Behavioral Neurology*. 2017, vol. 30, no. 1, p. 23-29. ISSN 1543-3633.
- 32) PIGLOVA, T. - PANSKA, S. - BITTNER, V. - JELEN, K. - STURSA, P. - KELLER, J. Possibilities of objective identification of meniscoids in joint blocks of the axial system, by MRI and Transfer Vibration through the Spine. *Neuroendocrinology Letters*. 2017, vol. 38, no. 5, p. 360-366, article no: PMID NEL380517A06. ISSN 0172-780X.
- 33) POOLE, K. E. S. - SKINGLE, L. - GEE, A. H. - TURMEZEI, T. D. - JOHANNESDOTTIR, F. - VINDLACHERUVU, M. - DONELL, S. - VACULÍK, J. - DUNGL, P. - HORAK, M. - STEPAN, J. J. - REEVE, J. - TREECE, G. M. Focal osteoporosis defects play a key role in hip fracture. *Bone*. 2017, vol. 94, p. 124-134. ISSN 8756-3282.

PUBLICATIONS IN 2017

- 34) POPELOVÁ, RUBÁČKOVÁ J. - TOMKOVÁ, M. - TOMEK, J., NT-proBNP predicts mortality in adults with transposition of the great arteries late after Mustard or Senning correction. *Congenital Heart Disease*. 2017, vol. 12, no. 4, p. 448-457. Online. ISSN 1747-0803.
- 35) PRŮCHA, M. - ZAZULA, R. - RUSSWUM, S., Immunotherapy of sepsis: Blind alley or call for personalized assessment? *Archivum Immunologiae et Therapiae Experimentalis*. 2017, vol. 65, no. 1, p. 37-49. ISSN 0004-069X.
- 36) POŘÍZKA, M. - KUNSTYR, J. - VANEK, T. - NEJEDLY, M. - BUCKOVA, J. - MOKREJS, J. - MOSNA, F. Postoperative outcome of high-risk Octogenarians Undergoing Cardiac Surgery: A multicenter observational Retrospective Study. *Annals of Thoracic and Cardiovascular Surgery*. 2017, vol. 23, no. 4, p. 188-195. ISSN 0003-4975.
- 37) REDDY, V. Y. - DOSHI, K. S. - KAR, S. - GABSIN, DOUGLAS N. - PRICE, J. M. - HUBER, K. - HORTON, P. R. - BUCHBINDER, M. - NEUZIL, P. - GORDON, T. N. - HOLMES, D. R. 5-year outcomes After Left Atrial Appendage Closure From the PREVAIL and PROTECT AF Trials. *Journal of the American College of Cardiology*. 2017, vol. 70, no. 24, p. 2964-2975. ISSN 0735-1097.
- 38) REDDY Y., V. - MILLER, MARC. A. - NEUZIL, P. - SOGAARD, P. - BUTTER, CH. - SEIFERT, M. - DELNOY, P. P. - ERVEN, L. - SCHALJI, M. - BOERSMAN, V. A. - RIAHI, S. Cardiac resynchronization Therapy With Wireless Left Ventricular Endocardial Pacing: The SELECT-LV Study. *Journal of the American College of Cardiology*. 2017, vol. 69, no. 17, p. 2119-2129. ISSN 0735-1097.
- 39) ROTEM, D. - RŮŽIČKA, F. - BEZDICEK, O. - RŮŽIČKA, E. - ROTH, J. - VYMAZAL, J. - GOELMAN, G. - JECH, R. Separate neural representations of depression, anxiety and apathy in Parkinson's disease. *Scientific Reports*. 2017, vol. 7, article no. 12164. ISSN 2045-2322.
- 40) SHAHGALDI, K. - STAHLBERG, M. Spinal cord stimulation in heart failure: effect on disease-associated biomarkers. *European Journal of Heart Failure*. 2017, vol 19, no. 2, p. 283-286. ISSN 1879-0844.
- 41) SCHLAICH, M. - SCHULZ, C. - HERING, D. - SHETTY, S. - WORTHLEY, S. - SIEVERT, H. - REDDY, V. - MALEK, F. - KMONICEK, P. - NEUZIL, P. First in-human evaluation of a Transvenous Carotid Body Ablation Device to Treat Patients with Resistant Hypertension. *Heart Lung and Circulation*. 2017, vol. 26, suppl. 2, p. S57. ISSN 1443-9506.
- 42) SCHMIDT, B. - NEUŽIL, P. - LUIK, A. - ASENSI, O. J. - SCHRICKER, W. J. - DENEKE, T. - BORDIGNON, S. - PETRU, J. - MERKEL, M. - ŠEDIVÁ, L. - KLOSTERMANN, A. - PERROTTA, L. - CANO, O. - CHUN, J. K. R. Laser Balloon or Wide-Area Circumferential Irrigated Radiofrequency Ablation for Persistent Atrial Fibrillation: A Multicenter Prospective Randomized Study. *Circulation-Arrhythmia and Electrophysiology*. 2017, vol. 10, no. 12, article no. e005767. ISSN 1941-3149.
- 43) STOREY, K. - JOHANIDESOVA, S. - MATEJ, R. - KELLER, J. - ROHAN, Z. - RUSINA, R., FTLD-TDP and progressive supranuclear palsy in comorbidity report of two cases with different clinical presentations. *Neurocase*. 2017, vol. 23, no. 1, p. 5-11. ISSN 1355-4794.

PUBLICATIONS IN 2017

- 44) STRANEK, L. – SPRINGER, D. – KONOPASEK, B. – VOCKA, M. – TESAROVA, P. – SYRUCEK, M. – PETRUZELKA, L. – VICHA, A. – MUSIL, Z. Molecular pathological predictive diagnostics in a patient with non-small cell lung cancer treated with crizotinib therapy: A case report. *Oncology Letters*. 2017, vol. 14, no. 6, p. 7545-7548. ISSN 1792-1074.
- 45) TABATA, E. – KASHIMURA, A. – WAKITA, S. – OHNO, M. – SAKAGUCHI, M. – SUGAHARA, Y. – IMAMURA, Y. – SEKI, S. – UEDA, H. – MATOSKA, V. – BAUER, P. O. – OYAMA, F. Protease resistance of porcine acidic mammalian chitinase under gastrointestinal conditions implies that chitin-containing organisms can be sustainable dietary resources. *Scientific Reports*. 2017, vol. 1, article no. 12963. ISSN 2045-2322.
- 46) TABATA, E. – KASHIMURA, A. – WAKITA, S. – OHNO, M. – SAKAGUCHI, M. – SUGAHARA, Y. – IMAMURA, Y. – SEKI, S. – UEDA, H. – MATOSKA, V. – BAUER, P. O. – OYAMA, F. Gastric and intestinal proteases resistance of chicken acidic chitinase nominates chitin-containing organisms for alternative whole edible diets for poultry. *Scientific Reports*. 2017, vol. 7, article no. 6662. ISSN 2045-2322.
- 47) TABORSKY, M. – OSTADAL, P. – ADAM, T. – MORAVEC, O. – GLOGER, V. – SCHEE, A. – SKALA, T. Red or white wine consumption effect on atherosclerosis in healthy individuals (In Vino Veritas study). *Bratislava Medical Journal- Bratislavské lekárske listy*. 2017, vol. 118, no. 5, p. 292-298. ISSN 0006-9248.
- 48) VESELSKY, T. – NOVOTNY, J. Jr. – PASTYKOVA, V. – KONIAROVA, I. Determination of small field synthetic single-crystal diamond detector correction factors for CyberKnife, Leksell Gamma Knife Perfexion and linear accelerator. *Physica Medica-European Journal of Medical Physics*. 2017, vol. 44, p. 66-71. ISSN 1120-1797.
- 49) VONDRÁKOVÁ, D. – KRUEGER, A. – JANOTKA, M. – MÁLEK, F. – DUDKOVÁ, V. – NEUŽIL, P. – OŠTÁDAL, P. Association of neuron-specific enolase values with outcomes in cardiac arrest survivors is dependent on the time of sample collection. *Critical Care*. 2017, vol 21, no. 172. Online. ISSN 1364-8535.
- 50) WAKITA, S. – KOBAYASHI, S. – KIMURA, M. – KASHIMURA, A. – HONDA, S. – SAKAGUCHI, M. – SUGAHARA, Y. – KAMAYA, M. – MATOSKA, V. – BAUER, P. O. – OYAMA, F. Mouse acidic mammalian chitinase exhibits transglycosylation activity at somatic tissue Ph. *FEBS Letters*. 2017, vol. 591, no. 20, p. 3310-3318. ISSN 0014-5793.
- 51) ZBYTOVSKÁ, J. – GALLUSOVÁ, J. – VIDLÁŘOVÁ, L. – PROCHÁZKOVÁ, K. – ŠIMEK, J. – ŠTĚPÁNEK, F. Physical compatibility of Propofol-Sufentanil mixtures. *Anesthesia and Analgesia*. 2017, vol. 124, no. 3, p. 776-781. ISSN 0003-2999.
- 52) ZECH, M. – JECH, R. – HAVRÁNKOVÁ, P. – FEČÍKOVÁ, A. – BERUTTI, R. – URGOŠÍK, D. – KEMLINK, D. – STROM, T. M. – ROTH, J. – RŮŽIČKA, E. – WINKELMANN, J. KMT2B Rare missense variants in generalized dystonia. *Movement Disorder*. 2017, vol. 32, no. 7, p. 1087-1091. ISSN 1531-8257.

Other articles

- 1) BĚLOHLÁVEK, O. - JARUŠKOVÁ, M., An easy way to increase confidence in beta-amyloid PET evaluation. Nuclear Medicine Review. 2017, vol.20, no. 2, p. 107-109. ISSN 1506-9680.
- 2) JANOTKA, M. - ŠKODA, J. - PETRŮ, J. - ŠEDIVÁ, L. - CHOVANEC, M. - ČERNÝ, Š. - PAVEL, P. - MICHEL, M. - SKALSKÝ, I. - BENEŠOVÁ, M. - NEUŽIL, P. Arrhythmia recurrence in patients following cardiac surgery with concomitant therapy of atrial fibrillation - Experience of our cardiac center. Cor et Vasa. 2017, vol. 59, no. 4, special issue, p. E367-E375. ISSN 0010-8650.
- 3) MÁLEK, F. - ANDREASOVÁ, T. - VONDRÁKOVÁ, D. - SEDLÁČKOVÁ, L. - DVOŘÁK, J. - TÁBORSKÝ, L. - NEUŽIL, P., Correlation of ceruloplasmin, an acute phase protein, with NT-proBNP and liver function tests in stable HF rEF. European Journal of Heart Failure. 2017, vol 19, SI suppl 1, p. 132. Online. ISSN 1879-0844.
- 4) MÁLEK, F. - VONDRÁKOVÁ, D. - DVOŘÁK, J. - NEUŽIL, P., Clinical characteristics, office blood pressure, medical therapy and cardiac structure in subjects with suspected drug-resistant hypertension referred to hypertension clinic. Journal of Hypertension. 2017, vol. 35, e-suppl no. 2, p. e212-e213. Online. ISSN 1473-5598.
- 5) PRŮCHA, M. - ŠEDIVÝ, P. - ŠTÁDLER, P. - DUBSKÁ, L. - PEHAL, F. - HAYNEK, J., Patients with abdominal aortic Aneurysm Demonstrate Higher Levels of Non-cholesterol Sterol Markers of Endogenous Cholesterol Synthesis. Journal of Advances in Medicine and Medical Research. 2017, vol. 22, no. 7, p.1-6. Article no. JAMMR.33956. ISSN 2231-0614.
- 6) SKÁLA, Tomáš - OŠTÁDAL, Petr - ADAM, Tomáš - MORAVEC, O. - GLOGER, V. - SCHEE, A. - TÁBORSKÝ, M. Vliv vína na hladinu cholesterolu u zdravých jedinců s nízkým až středním kardiovaskulárním rizikem (sub-analýza In Vino Veritas studie). Cardiology Letters. 2017, Vol. 26, No. 2, p. 83-88. ISSN 1338-3655.
- 7) SKULEC, Roman - CALLEROVA, Jitka - KNOR, Jiri - OSTADAL, P. - KMONICEK, P. - CERNY, V. Case of morphine-induced ventricular fibrillation. World journal of emergency medicine. 2017, Vol. 8, No. 4, p. 310-312. ISSN 1920-8642.
- 8) SPINAR, J. - JARKOVSKY, J. - SPINAROVA, L. - VITOVEC, J. - LINHART, A. - WIDIMSKY, P. - MIKLIK, R. - ZEMAN, K. - BELOHLAVEK, J. - MALEK, F. - CIHALIK, C. - SPAC, J. - FELSOCI, M. - OSTADAL, P. - DUŠEK, L. - KETTNER, J. - VACLAVIK, J. - LITTNEROVA, S. - MONHART, Z. - MALEK, J. - PARENICA, J. Worse prognosis of real-world patients with acute heart failure from the Czech AHEAD registry in comparison to patients from the RELAX-AHF trial. ESC Heart Failure. 2017, vol. 4, no. 1, p. 8-15. ISSN 2055-5822.
- 9) STRUNINA, S. - HOZMAN, J. - OSTADAL, P. Relation between left Ventricular Unloading During ECMO and Drainage Catheter Size Assessed by Mathematical Modeling. Acta Polytechnica. 2017, vol. 57, no. 5, p. 367-372. ISSN 1210-2709.

Domestic

Monographs

- 1) ČÁP, PETR – KOŤÁTKO, P. – MALÝ, M. – MAXOVÁ, H. – ŠULC, J. – VÍZEK, M. – VONDRA, V. – ZINDR, V. Bronchiální hyperreaktivita a její souvislosti. Praha: Mladá fronta, 2017. 190 p. ISBN: 978-80-204-4495-0

Chapter in Books

- 1) BRŤKO, M. – TUNA, M. – RUBÁČKOVÁ POPELOVÁ, J. – VOJÁČEK, J. – ČERNÝ, Š. – ŽÁČEK, P. Chlopenní vady. In: TÁBORSKÝ, M. a kol. Kardiologie. Praha: Mladá fronta, 2017, p. 664 -704. ISBN 978-80-204-4434-9.
- 2) KRAMSKÁ, L. Neuropsychologická diagnostika a psychoterapie u pacientů s nádory mozku. In: KULIŠŤÁK, P a kol. Klinická neuropsychologie v praxi. Praha: Karolinum, 2017, p. 373-388. ISBN 978-80-246-3068-7.
- 3) KRAMSKÁ, L. Neuropsychologie cévních mozkových příhod. In: KULIŠŤÁK, P a kol. Klinická neuropsychologie v praxi. Praha: Karolinum, 2017, p. 279-308. ISBN 978-80-246-3068-7.
- 4) KRAMSKÁ, L. Neuropsychologická diagnostika a myšlení. In: KULIŠŤÁK, P a kol. Klinická neuropsychologie v praxi. Praha: Karolinum, 2017, p. 215-225. ISBN 978-80-246-3068-7.
- 5) KRAMSKÁ, L. Psychogenní poruchy pohybu. In: KULIŠŤÁK, P a kol. Klinická neuropsychologie v praxi. Praha: Karolinum, 2017, p. 340-348. ISBN 978-80-246-3068-7.
- 6) KRAMSKÁ, L. Psychogenní neepileptické záchvaty. In: KULIŠŤÁK, P a kol. Klinická neuropsychologie v praxi. Praha: Karolinum, 2017, p. 324-339. ISBN 978-80-246-3068-7.
- 7) LIŠČÁK, R. – VLADYKA, V. Radiochirurgická terapie hypothalamo-hypofyzárních expanzí. In: MAREK, J. – HÁNA, V. a kol. Endokrinologie. Praha: Galén, 2017, p. 192-199. ISBN 978-80-7262-484-3.
- 8) POPELOVÁ, RUBÁČKOVÁ J. Vrozené srdeční vady v dospělosti. In: TÁBORSKÝ, M. Kardiologie. Praha: Mladá fronta, 2017, p. 940-1004. ISBN 978-80-204-4434-9.

PUBLICATIONS IN 2017

- 9) POPELOVÁ, RUBÁČKOVÁ J. Vrozené srdeční vady s plicní hypertenzí v dospělosti. In: JANSÁ, P. – ASCHERMANN, M. Chronická plicní hypertenze. Praha: Maxdorf, 2017, p. 317-332. ISBN 978-80-7345-525-5.
- 10) ŠTÁDLER, P. Koncepce oboru cévní chirurgie. In: TÁBORSKÝ, M. a kol. Kardiologie. Praha: Mladá fronta, 2017, p. 29. ISBN 978-80-204-4434-9.
- 11) ŠTÁDLER, P. Základy vaskulární chirurgie. In: TÁBORSKÝ M. a kol. Kardiologie. Praha: Mladá fronta, 2017, p. 1088-1113. ISBN 978-80-204-4434-9.

Articles published in IF journals

- 1) HANUŠKA, J. – KLENER, J. Significant brain oedema in Unruptured Brain Arteriovenous Malformation – a Case Report. Česká a Slovenská neurologie a neurochirurgie. 2017, vol. 80, no. 3, p. 350-352. ISSN 1210-7859.

Other articles

- 1) ANDREÁSOVÁ, T. – MÁLEK, F. Farmakologická léčba srdečního selhání se zachovalou ejekční frakcí. Kardiologická revue. 2017, Vol. 19, No. 2, p. 128-130. ISSN 2336-288X.
- 2) BUDERA, P. – KURFIRST, V. – ČERNÝ, S. – NEMEC, P. – PIRK, J. – LINDNER, J. – ROHL, V. – MOKRACEK, A. – HAJEK, T. – POJAR, M. – BRAT, R. – SANTAVY, P. – BRANNY, P. – BENESOVA, K. - JARKOVSKY, J. – STRAKA, Z. Reality of surgical treatment of atrial fibrillation in the Czech Republic – Data from the National Register of Cardiac Surgery (2010-2015). Cor et Vasa. 2017, vol. 59, no. 4, special issue, p. E305-E311. ISSN 0010-8650.
- 3) BUŠEK, Petr – BALÁŽIOVÁ, Eva – MATRASOVÁ, Ivana – FEJFAROVÁ, E. – ŠROMOVÁ STOLLINOVÁ, L. – HILŠER, M. – TOMÁŠ, R. – SYRŮČEK, M. – KŘEPELA, E. – ŠÁCHA, P. – SCHIMER, J. – KNEDLÍK, T. – DVOŘÁKOVÁ, P. – ŠUBR, V. – ULBRICH, K. – KONVALINKA, J. – ŠEDO, A. Fibroblastový aktivační protein jako možný léčebný cíl v glioblastomech. Prague Onco Journal. 2017, Vol. 2017, Vol. 1, p. 118. ISSN 1804-2252 ISBN 1804-2252.
- 4) ČÁP, P. Chronický kašel – nové perspektivy diagnostiky?. Medicína po promoci. 2017, Vol. 18, Vol. 2, p150-151. ISSN 1212-9445.
- 5) ČÁP, Petr. Sublinguální imunoterapie roztočovými tabletami u alergické rýmy a astmatu. Remedia. 2017, Vol. 27, Vol. 1, p. 78-83. ISSN 0862-8947.
- 6) DVOŘÁČKOVÁ, Simona – LÁDOVÁ, Kateřina – MALÝ, Josef – KOLÁŘ, Jozef – PENKA, M. Adherence k léčbě non-vitamin K perorálními antikoagulancii u nevalvulární fibrilace síní: přehled literatury. Vnitřní lékařství. 2017, Vol. 63, Vol. 10, p. 633-639. ISSN 0042-773X.
- 7) HERKNEROVÁ, Magdalena – ČÁP, Petr. Nosní provokační testy. Alergie. 2017, Vol. 19, Vol. 2, p. 103-114. ISSN 1212-3536.

PUBLICATIONS IN 2017

- 8) HLADKÁ, Petra. Akutní infarkt myokardu včera a dnes. Florence. 2017, Vol. 13, Vol. 5, p. 33-36. ISSN: 1801-464X.
- 9) HLADKÁ, Petra – ZPĚVÁČKOVÁ, Hana – MÜLLEROVÁ, Alena. Plánovaná elektivní kardioverze, ošetrovatelská péče. Florence. 2017, Vol. 13, Vol. 12, p. 20-23. ISSN 1801-464X.
- 10) HOLUBEC, Luboš – POLÍVKA, Jindřich – LISNEROVÁ, Lenka – ŠAFANDA, Martin. Komentář k aktuálně komentovaným výsledkům interim analýz studií s lipegfilgrastimem v oblasti profylaxe febrilní neutropenie v onkologii. Prague Onco Journal. 2017, Vol. 2017, Vol. 1, p. 43-47. ISSN 1804-2252 ISBN 1804-2252.
- 11) HOLUBEC, Luboš – POLÍVKA, Jiří. Současný pohled na klinické využití oxazafosforinů u solidních nádorů, hematologických malignit a dalších onemocnění. Acta Medicinæ. 2017, Vol. 6, Vol. 7-8, p. 16-20. ISSN 1805-398X.
- 12) HOLUBEC, Luboš – POLÍVKA, Jiří – ŠAFANDA, Martin. Tapentadol v léčbě polymorbidních nemocných s nádory plic. Acta medicinae. 2017, Vol. 6, Vol. 3, p. 41-44. ISSN 1805-398X.
- 13) HONĚK, T. - HORVÁTH, M. - HORVÁTH, V. - ŠLAIS, M. - KNEIFL, T. - HONĚK, J. - HAVLÍKOVÁ, A. - VÍTOVEC, M. - FABIÁN, V. - SLOVÁK, P. Catheter-based endovenous laser ablation of saphenous veins in the treatment of symptomatic venous reflux: Early results. Cor et Vasa. 2017, vol. 59, no. 6, p. e525-e529. ISSN 0010-8650.
- 14) HONZÍRKOVÁ, Michaela – LIPSKÁ, Ludmila – KOHOUT, Pavel – FREDA, J. – BĚLOHLÁVEK, O. – BÜVHLER, T. Durable complete response of colorectal cancer metastasis after biochemotherapy. Klinická onkologie. 2017, Vol. 30, Vol. 3, p. 210-212. ISSN 0862-495X.
- 15) HOUDEK, Š. – MÍKOVÁ, Barbora. Metodika hodnocení odpovědi onkologické léčby RECIST 1.1 a její úskalí. Prague Onco Journal. 2017, Vol. 2017, Vol. 1, p. 106. ISSN 1804-2252 ISBN 1804-2252.
- 16) HOUDEK, Štěpán – BÜCHLER, Tomáš – KINDLOVÁ, Eva. Souhrnné srovnání kritérií RECIST 1.1 a iRECIST pro hodnocení odpovědi na onkologickou léčbu solidních tumorů. Klinická onkologie. 2017, Vol. 30, Suppl. 3, p. 32-39. ISSN 0862-495X.
- 17) HYÁNEK, Josef – PEHAL, František – DUBSKÁ, Ladislava – MÍKOVÁ, J. – GOMBÍKOVÁ, J. – KUBŮ, S – HALÁČKOVÁ, P – FEYEREISL, Jaroslav – TÁBORSKÝ, L., Hypercholesterolémie v těhotenství: úvahy o jejich etiologii a diagnostickém významu. Česká gynekologie. 2017, Vol. 82, Vol. 6, p. 455-461. ISSN 1210-7832.
- 18) HYÁNEK, Josef – MAŤOŠKA, Václav – DUBSKÁ, Ladislava – MÍKOVÁ, B. – PEJZNOCHOVÁ, H. – DVOŘÁKOVÁ, H. – TÁBORSKÝ, L. – KOŠAN, L. – MARTINIKOVÁ, V. – PRIVAROVÁ, J. – BRTNOVÁ, J. Mírné hyperhomocysteinémie z deficitu MTHFR (C677T a C1298A) u dospělých a adolescentů v metabolické ambulanci. Je třeba je diferencovat a léčit? Klinická biochemie a metabolismus. 2017, Vol. 25, Vol. 1, p. 18-26. ISSN 1210-7921.
- 19) KALA, Petr – BLAHA, Milan – MATES, Martin – ŽELÍZKO, M. – BRANNY, M. – KOČKAF, V. – TŘETINA, M. – JAROVSKÝ, J. – NĚMEC, P. – ŠTÁSEK, J. – ČERVINKA, P. Český registr TAVI – nemocniční výsledky. Cor et Vasa. 2017, Vol. 59, Vol. 1, p. 57-62. ISSN 0010-8650.

PUBLICATIONS IN 2017

- 20) KALA, P. - BLAHA, M. - MATES, M. - ŽELÍZKO, M. - BRANNY, M. - KOČKA, V. - TŘETINA M. - JARKOV, J. - NĚMEC, P. - ŠTÁSEK - ČERVINKA, P. Czech TAVI registry - Hospital outcome. *Cor et Vasa*. 2017, vol. 59, no. 1, special issue, p. E51-E56. ISSN 0010-8650.
- 21) KALA, P. - MATES, M. - ZELIZKO, M. - ROKYTA, R. - OSTADAL, P. 2017 ESC Guidelines for the management of acute myocardial infarction in patients presenting with ST-segment elevation. Summary of the document prepared by the Czech Society of Cardiology. *Cor et Vasa*. 2017, vol. 59, no. 6, p. E613-E644. ISSN 0010-8650.
- 22) KMONÍČEK, P. - MATES, M. Transfemoral implantation of CoreValve Evolut R in patient with functionally bicuspid aortic valve. *Cor et Vasa*. 2017, vol. 59, no. 1, special issue, p. E60-E64. ISSN 0010-8650.
- 23) KMONÍČEK, Petr – MATES, Martin. Transfemorální implantace chlopně CoreValve Evolut R u funkčně bikuspidální aortální chlopně. *Obrazová kasuistika*. *Cor et Vasa*. 2017, Vol. 59, Vol. 1, p. 66-70. ISSN 0010-8650.
- 24) KOPŘIVA, Karel – MATES, Martin. Hodnocení koronárního postižení. *Postgraduální medicína*. 2017, Vol. 19, příl. 1, p. 6-14. ISSN 1212-4184.
- 25) KRAJINA, Antonín – ROČEK, Miloslav – KÖCHER, Martin – CIHLÁŘ, F. – LACMAN, J. – JANOUŠKOVÁ, L. – DURAS, P. – ŠTĚRBA, L. – ENDRYCH, L. – JONSZTA, T. – VANÍČEK, J. – HUSTÝ, J. – KOŽNAR, B. – VÁCLAVÍK, D. – VESELKA, J. – VAŘEJKA, P. Vývoj počtů endovaskulárních neurointerventčních metod v České republice v letech 2013-2016. *Česká radiologie*. 2017, Vol. 71, Vol. 2, p. 110-115. ISSN 1210-7883.
- 26) LÁBR, K. – ŠPINAR, Jindřich – PAŘENICA, Jiří - ŠPINAROVÁ, Lenka - MÁLEK, Filip - ŠPINAROVÁ, M. - LUDKA, O. - JARKOVSKÝ, J. - BENEŠOVÁ, K. - LÁBROVÁ, R. Betablokátory v registru chronického srdečního selhání FAR NHL. *Kardiologická revue*. 2017, Vol. 19, Vol. 1, p. 68-72. ISSN 2336-288X.
- 27) LÁDOVÁ, Kateřina – THOMSON, Petra – HALAČOVÁ, Milada – JIRÁK, Petr. Možnosti ovlivnění bolestivosti při podávání intramuskulárního benzathin penicilinu G. *Praktické lékařství*. 2017, Vol. 13, Vol. 1E, e8-e14. ISSN 1801-2434.
- 28) LÁDOVÁ, Kateřina – MALÝ, Josef – VEGERBAUER, Milan – THOMSON, Petra. Použití neregistrovaných léčiv na příkladech v pediatrii. *Pediatric pro praxi*. 2017, Vol. 18, Vol. 1, p. 22-25. ISSN 1213-0494.
- 29) LUKÁŠ, Jindřich – ASTL, Jaromír – PASKA, Jan - JIRÁK, P. - TRABOULSI, J. - ŠTĚPÁNEK, J. - ČERNÝ, M. - SVÁROVSKÝ, J. - KAČÍRKOVÁ, J. Incidence komplikací u operací štítné žlázy Retrospektivní analýza. *Otorinolaryngologie a foniatrie*. 2017, Vol. 66, Vol. 2, p. 66-70. ISSN cnb000359191.
- 30) MAIRGANI, G. – MÁLEK, Filip. Diuretika a antagonisté mineralokortikoidních receptorů v terapii chronického srdečního selhání se sníženou ejekční frakcí levé komory. *Kardiologická revue*. 2017, Vol. 19, Vol. 1, p. 51-54. ISSN 2336-288X.
- 31) MÁLEK, F. Postavení sakubitril/valsartanu v terapii chronického srdečního selhání. *Medicína po promoci*. 2017, Vol. 18, Vol. 3, p. 273-278. ISSN 1212-9445.
- 32) MATES, Martin – KOPŘIVA, Karel. Léčba aortální stenózy s nízkým gradientem. *Cor et Vasa*. 2017, Vol. 59, Vol. 1, p. 24-29. ISSN 0010-8650.

PUBLICATIONS IN 2017

- 33) MATOUŠKOVÁ, Jana. Nové možnosti antikoagulační léčby pacientů s fibrilací síní, aneb co by měl praktický lékař vědět o nových antikoagulan-
cích. Practicus. 2016, Vol. 15, Vol. 8, p. 10-11. ISSN 1213-8711.
- 34) MATOUŠKOVÁ, Jana – NEUŽIL, Petr. Edoxaban před uvedením na český trh. Acta medicinae. 2017, Vol. 6, Vol. 2, p. 30-32. ISSN 1805-398X.
- 35) MÁLEK, Filip. Blokáda systému renin-angiotenzin-aldosteron po infarktu myokardu. Acta medicinae. 2017. Vol. 6, Vol. 2, p. 25-26. ISSN 1805-398X.
- 36) MÁLEK, Filip. Co dělat a co nedělat pro pacienty se srdečním selháním? Nová doporučení ESC 2016. Remedia. 2017, Vol. 27, Vol. 1, p. 62-65.
ISSN 0862-8947.
- 37) MÁLEK, Filip. Duální inhibice v terapii srdečního selhání. Interní medicína pro praxi. 2017, Vol. 19, No. 1, p. 29-32. ISSN 1212-7299.
- 38) MÁLEK, Filip. Edoxaban. Farmakoterapie. 2017, Vol. 13, No. 1, p. 87-93. ISSN: 1801-1209
- 39) MÁLEK, Filip. Chronické srdeční selhání – nové poznatky – komentář. Medicína po promoci. 2017, Vol. 18, No. 1, p. 27-28. ISSN 1212-9445.
- 40) MÁLEK, Filip. Implementace Doporučení pro diagnostiku a léčbu srdečního selhání 2016 do klinické praxe – úloha ivabradinu. Kardiologická
revue. 2017, Vol. 19, No. 2, p. 123-127. ISSN 2336-288X.
- 41) MÁLEK, Filip. – MATES, M. – MRÁZ, T. – NEUŽIL, P. Nové perspektivy léčby srdečního selhání se zachovalou ejekční frakcí levé komory – transka-
tétrová implantace IASD (Interatrial Septal Device). Kardiológia pre prax. 2017, Vol. 15, No. 2, p. 112-113. ISSN 1336-3433.
- 42) MÁLEK, Filip. Novinky ve farmakologické léčbě a prevenci chronického srdečního selhání. Aktuální medicína. 2017, Vol. 2017, No. 1, p. 21-27.
ISSN: cnb002944407.
- 43) MÁLEK, Filip. Pacient s chronickým onemocněním ledvin a srdečním selháním z pohledu kardiologa. Postgraduální nefrologie. 2017, Vol. 15, No.
1, p. 36-40. ISSN 1214-178X.
- 44) MÁLEK, Filip. Použití fixní trojkombinace atorvastatin, perindopril a amlodipin k terapii arteriální hypertenze a ke snížení rizika kardiovaskulárních
příhod. Acta medicinae, 2017, Vol. 6, No. 10, p. 47-48. ISSN 1805-398X.
- 45) MÁLEK, Filip. Současné možnosti léčby srdečního selhání. ZN plus. 2017, Vol. 66, No. 16, p. 8-9. ISSN 2533-3968.
- 46) MÁLEK, Filip. Význam sakubitril/valsartanu v terapii srdečního selhání u pacientů s diabetes mellitus. Acta medicinae: Diabetologie. 2017, No. 2,
p. 6-7. ISSN 1805-398X.
- 47) MOTOVSKÁ, Z. – VARVAŘOVSKÝ, I. – OŠŤÁDAL, P. 2017 ESC focused update on dual antiplatelet therapy in coronary artery disease develo-
ped in collaboration with EACTS. Summary of the document prepared by the Czech Society of Cardiology. Cor et Vasa. 2017, vol. 59, no. 6,
p. E592-E612. ISSN 0010-8650.

PUBLICATIONS IN 2017

- 48) NĚMEC, P. - BĚLOHLÁVEK, J. - BALÍK, M. - CVACHOVEC, K. - ČERNÝ, Š. - ČERNÝ, V. - DOSTÁL, P. - LISCHKE, R. - NETUKA, J. - MALÝ, J. - MAŠÍN, J. - MLEJNSKÝ, F. - OŠŤÁDAL, P. - ROKYTA, R. - ŽELÍZKO, M. Koncepce použití mechanických podpor při léčbě pokročilého srdečního nebo plicního selhání v České republice. *Anesteziologie a intenzivní medicína*, 2017, Vol. 28, No. 5, p. 309-311. ISSN cnb001239462.
- 49) NĚMEC, P. - BĚLOHLÁVEK, J. - BALÍK, M. - CVACHOVEC, K. - ČERNÝ, Š. - ČERNÝ, V. - DOSTÁL, P. - LISCHKE, R. - NETUKA, J. - MALÝ, J. - MAŠÍN, J. - MLEJNSKÝ, F. - OŠŤÁDAL, P. - ROKYTA, R. - ŽELÍZKO, M. A conception for the use of mechanical support for the treatment of advanced cardiac or pulmonary failure in the Czech Republic: A joint statement of the Czech Society of Cardiology, Czech Society of Intensive Care Medicine CLS JEP, Czech Society of Cardiovascular Surgery CLS JEP, Czech Society of Anesthesiology, Resuscitation and Intensive care Medicine CLS JEP, Czech Transplantation Society, Czech Society for Extracorporeal Circulation and Society for Organ Transplantations CLS JEP. *Cor et Vasa*. 2017, vol. 59, no. 2, p. E200-E203. ISSN 0010-8650.
- 50) OPATRNÁ, Sylvie – BEDNÁŘOVÁ, Vladimíra – SULKOVÁ, Sylvie – PAŘÍKOVÁ, A. - TESAŘ, Vladimír – VIKLICKÝ, Ondřej - NEDBÁLKOVÁ, M. - BÍLKOVÁ JORDANOV, I. - OPATRNÝ, J. Faktory ovlivňující výběr dialyzační metody v České republice. *Aktuality v nefrologii*. 2017, Vol. 23, No. 4, p. 179-182. ISSN 1210-955X.
- 51) OŠŤÁDAL, P. - ROKYTA, R. - BALÍM, M. - BĚLOHLÁVEK, J. - CHOVANEC, K. - ČERNÝ, V. - DOSTÁL, P. - JANOTA, T. - KALA, P. - MATĚJOVIČ, M. - PAŘENICA, J. - ŠEBLOVÁ, J. - ŠKULEC, R. - ŠRÁMEK, V. - TRUHLÁŘ, A. Cardiac Arrest Centers: Joint statement of Czech Professional Societies: Czech Acute Cardiac Care Association of the Czech Society of Cardiology, Czech Resuscitation Council, Czech Society of Intensive Care Medicine CLS JEP, Czech Society of Anesthesiology, Resuscitation and Intensive Care Medicine CLS JEP, and Society for Emergency and Disaster Medicine CLS JEP. *Cor et Vasa*. 2017, vol. 59, no. 2, p. E196-E199. ISSN 0010-8650.
- 52) OŠŤÁDAL, Petr – ROKYTA, Richard – BALÍK, Martin – BĚLOHLÁVEK, J. - CVACHOVEC, K. - ČERNÝ, V. - DOSTÁL, P. - JANOTA, T. - KALA, P. - MATĚJOVIČ, M. - PŘENICA, J. - ŠEBLOVÁ, J. - ŠKULEC, R. - ŠRÁMEK, V. - TRUHLÁŘ, A. Centra péče o nemocné po srdeční zástavě. *Anesteziologie a intenzivní medicína*. 2017, Vol. 28, No. 5, p. 312-315. ISSN cnb001239462.
- 53) OŠŤÁDAL, P. - ROKYTA, R. - BALÍM, M. - BĚLOHLÁVEK, J. - CHOVANEC, K. - ČERNÝ, V. - DOSTÁL, P. - JANOTA, T. - KALA, P. - MATĚJOVIČ, M. - PAŘENICA, J. - ŠEBLOVÁ, J. - ŠKULEC, R. - ŠRÁMEK, V. - TRUHLÁŘ, A. Centra péče o nemocné po srdeční zástavě. *Urgentní medicína*, 2017, Vol. 20, No. 2, p. 24-27. ISSN 1212-1924.
- 54) PRACHOVÁ, Helena. Addisonova choroba - myslíme na ni při diferenciální diagnostice? *Interní medicína pro praxi*. 2017, Vol. 19, No. 5, p. 262-265. ISSN 1212-7299.
- 55) PROKEŠ, Michal – HALAČOVÁ, Milada – SUCHOPÁR, Josef. Polypragmazie - nenápadný nepřítel. *Bulletin Sdružení praktických lékařů ČR*. 2017, Vol. 27, No. 3, p. 23-33. ISSN 1212-6152.

PUBLICATIONS IN 2017

- 56) PRŮCHA, Miroslav – SEDLÁČKOVÁ, Lenka. IgG4-related disease – A patient with multiple organ involvement. Prague Medical Report. 2017, Vol. 118, No. 2-3, p. 95-99. ISSN 1214-6994.
- 57) RUTAR, Pavel. Existují rezervy v léčbě pacientů po infarktu myokardu?. Interní medicína pro praxi. 2017, Vol. 19, No. 2, p. 97-98. ISSN 1212-7299.
- 58) SEDLÁČKOVÁ, Lenka. Alergie na beta-laktamová antibiotika dnes. Medicína pro praxi. 2017, Vol. 14, No. 4, p. 193-195. ISSN 1214-8687.
- 59) SEDLÁČKOVÁ, Lenka. Vyšetřování příčin perioperačních reakcí. Alergie. 2017, Vol. 19, No. 1, p. 18-23. ISSN 1212-3536.
- 60) SVOBODOVÁ, Dita – RADJENOVIČOVÁ, Blanka – ŽÁRA, Pavel – ZINKE, J. – GUTOVÁ, L. – SOHLICH, E. – ŠALEK, M. – MARSOVÁ, M. – LEVOROVÁ, G. – FRYDRYCHOVÁ, H. – OBORNÝ, T. – DOSTÁLOVÁ, M. – ŽALOUĐÍK, J. Propuštění z nemocnice – a co dál?. Medical Tribune. 2017, Vol. 13, No. 2, A2-A3. ISSN 1214-8911.
- 61) ŠOLÍNOVÁ, Jana – LÁDOVÁ, Kateřina. Měření tepové frekvence v lékárně – projekt Heart Rhythm Week 2017. Časopis českých lékárníků. 2017, Vol. 89, No. 7-8, p. 7. ISSN cnb000359818.
- 62) ŠTÁDLER, P. – DVOŘÁČEK, L. – VITÁSEK, P. – MATOUŠ, P. Uplatnění robotického systému da Vinci v cévní chirurgii. Rozhledy v chirurgii. 2017, Vol. 96, No. 2, p. 63-68. ISSN 0035-9351.
- 63) ŠPINAR, Jindřich – PAŘENICA, Jiří – ŠPINAROVÁ, Lenka – VÍTOVEC, Jiří – MÁLEK, Filip. Jaké jsou cílové hodnoty krevního tlaku u srdečního selhání?. Kardiologická revue. 2017, Vol. 19, No. 2, p. 84-88. ISSN 2336-288X.
- 64) TOMÁŠ, Robert – KLENER, Jan – ŠROUBEK, Jan – ŠOULA, O. – RAEV, S. – BUŠEK P. – ŠEDO, A. Srovnání klinických výsledků a prognóza pacientů operovaných pro glioblastom v elokventních a non-elokventních oblastech mozku. Prague Onco Journal. 2017, Vol. 2017, No. 1, p. 120. ISSN: 1804-2252 ISBN 1804-2252.
- 65) VAŇKOVÁ, Barbora – MALÝ, Josef – MALÁ-LÁDOVÁ, Kateřina – SULKOVÁ, Sylvie. Analýza lékových problémů u pacientů po transplantaci ledvin – kazuistiky. Aktuality v nefrologii. 2017, Vol. 23, No. 4, p. 191-195, 198-201. ISSN 1210-955X.
- 66) VRBA, Ivan. Současné možnosti ovlivnění chronické bolesti. Remedia. 2017, Vol. 27, No. 1, p. 69-77. ISSN 0862-8947.
- 67) VYMAZAL, JOSEF – ŠUSTEK, PETR. Vyjádření k současné situaci s kontrastními látkami pro magnetickou rezonanci na bázi chelátů gadolinia. Česká kardiologie. 2017, Vol. 71, No. 4, p. 260-264. ISSN 1210-7883.

QUALITY AND SAFETY

International JCI accreditation

The long-term quality of healthcare, the safety of patients and the staff working at Na Homolce Hospital are the main pillars of its stability. Striving to provide quality healthcare in compliance with clearly defined standards, Na Homolce Hospital has been encouraged to maintain its Joint Commission International (JCI) international accreditation of healthcare facilities.

Na Homolce Hospital has had the status of “world quality brand” since 2005, when it passed its first accreditation audit. **In May 2017 the hospital successfully renewed this accreditation from JCI for the fifth time**, which is proof of the top healthcare provided to patients, as well as the high quality of the other processes within the entire hospital. The employees of the hospital can be justly proud of the result of the audit and especially the excellent results in the everyday care provided to our patients, which is to everybody's credit.

Na Homolce Hospital has held the JCI accreditation certificate for the longest period in the Czech Republic. Accreditation is granted for a period of three years. In order to retain the certificate, the hospital will have to renew it again in 2020 and document improvement and optimization of procedures, particularly in the field of risk management, HR management, drug policy and the continuous development of professional standards.



Joint Commission International is a worldwide organization with a more than one-hundred-year tradition of accrediting healthcare facilities. The accreditation it provides is a guarantee of safety for patients and demonstrates that the hospital continuously monitors, analyzes and improves qualitative indicators in all its operations. The JCI accreditation system is based on a set of accreditation standards that cover all important activities of a healthcare facility and cover both the immediate care of patients (monitoring e.g. accessibility and continuity of care, rights of patients and their family members, diagnostic and therapeutic care, storing and administration of drugs, education of patients and their family members, quality of care and safety of patients, prevention and checks on hospital infections) and also the management of the hospital (as regards management effectiveness, ensuring the safety of the hospital environment, qualifications and education of staff, information management and communication). Each standard is further divided into individual indicators that describe what the hospital must do to comply with the given standard. There are more than 1,000 indicators in the JCI system, the adherence to which is assessed by an international team of auditors during their one-week audit. The final decision on the provision or non-provision of accreditation is made by an international accreditation committee at the JCI headquarters in Chicago, based on the report of the team of auditors.



Quality systems at Na Homolce Hospital

ISO 15189

The following laboratories: Department of Clinical Biochemistry, Hematology and Immunology, Immunoanalytical Laboratory, Biopsy Laboratory of the Department of Pathology and Clinical Microbiology and Antibiotic Center of Na Homolce Hospital have had a quality management system in place since 2011 (awarded by the Czech Institute for Accreditation) that was accredited in accordance with ISO 15189. ISO 15189 (Medical laboratories – special requirements for quality and competence) focusing on the professional management of laboratories such as the process flow of sample examination, conditions for blood taking, collection of biological material, interpretation and provision of results and the safety and ethics of laboratory work. The accreditation of the quality management system in laboratories in accordance with ISO 15189 implies an increased confidence in compliance with the required level of services provided.

ISO 9001

Since 2004, a system of quality management in accordance with ISO 9001 has been in place in the Department of Nuclear Medicine for the provision of diagnostic services using immunoanalysis laboratory methods and imaging methods such as scintigraphy, computing, single photon and positron emission tomography (CT, SPECT, and PET/CT), including the preparation of radiopharmaceutical drugs. All services are provided according to an approved quality policy. This type of certification covers work organization, including process management, management of resources, monitoring, and assessment of procedure efficiency.

ISO 13485

Since 2014, the Department of Central Sterilization has held certification for the system of quality management of medical devices in accordance with the international standard ISO 13485. The Department of Central Sterilization is a workplace that ensures disinfection, preparation before sterilization and material sterilization for all facilities at Na Homolce Hospital, as well as the provision of contractual services for the offices of general and specialist practitioners.

Quality management system in the Spa Resort Mánes - ISO 9001

In 2006, the Spa Resort Mánes received the quality certificate ISO 9001 for the first time, which demonstrates that a quality management system has been introduced, as well as a level of management and services in accordance with European standards in the field of spa services, including physiotherapy, balneology, medical rehabilitation and accommodation and boarding services. Both patients and clients are guaranteed that the Spa Resort complies with healthcare regulations and sanitary standards, ensures health and safety at work and environmental protection, purchases from checked suppliers and has introduced a Metrology Code and ensures the continuous training and professional development of its employees. In March 2015, the Spa Resort passed a recertification audit of the quality management system and complied with the requirements of ISO 9001 for the activity of Comprehensive Spa Treatment - Accommodation, Board and Spa Treatment.

Risk Management - Stop Pressure Ulcers Campaign

Na Homolce Hospital has taken part in World Stop Pressure Ulcers Day. On November 16, 2017, it organized an awareness-raising event for employees, patients and visitors of the hospital focused on the presentation of means for the prevention and treatment of pressure sores. The event was held on the publicly accessible premises of the hospital.

What do we do to prevent pressure sores:

- Comprehensive treatment of the underlying disease.
- Pain monitoring, assessment and management.
- Physiotherapy and early mobilization of patients with the use of physiotherapeutic devices.
- Individual assessment of the risk of pressure sores in each patient.

Preventive measures taken in all patients at risk:

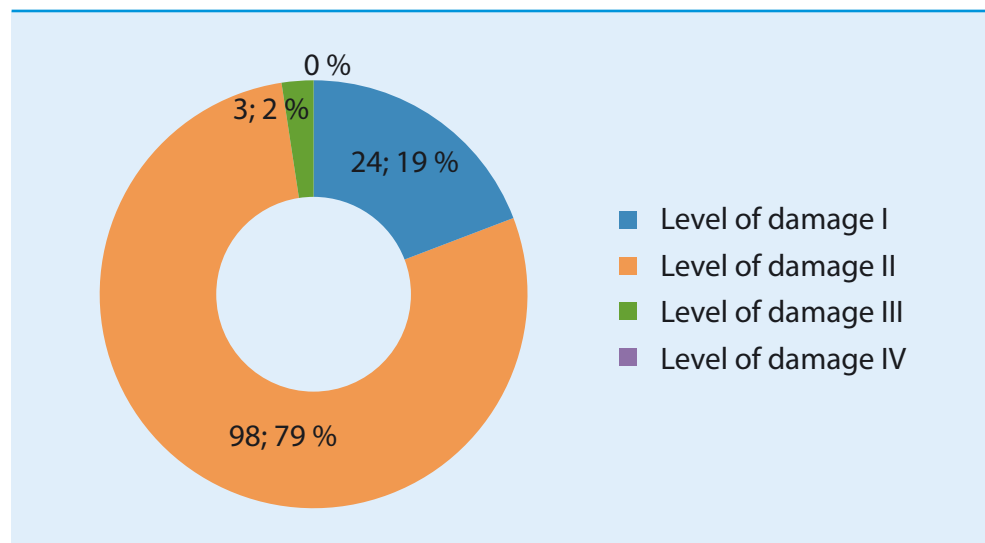
- Elimination of any source of pressure on tissues.
- Careful treatment and regular repositioning of immobile patients.



- Professional hygiene using the best cosmetic preparations and aids.
- Emphasis on clean and dry sheets and clothing.
- Use of the best anti-decubitus bed pads and mattresses, positioning devices and beds with special equipment (bars, side rails, etc.).
- Skin treatment using special protective cosmetic products.
- Application of film dressings on at-risk sites.
- Providing a nutritionally balanced diet, cooperation with a nutritional therapist.

Our results

We have been monitoring the results of our work in this field since 2003. Our achievements are excellent in the long run. Na Homolce Hospital treats a total of 20,000 inpatients annually, including patients in a critical condition and after long and complicated surgical interventions. The incidence of pressure ulcers is less than 1%. Most cases concern a first or second degree pressure sore. All these cases are examined in detail in order to find out what can be done even better.



Monitoring of Patient Satisfaction

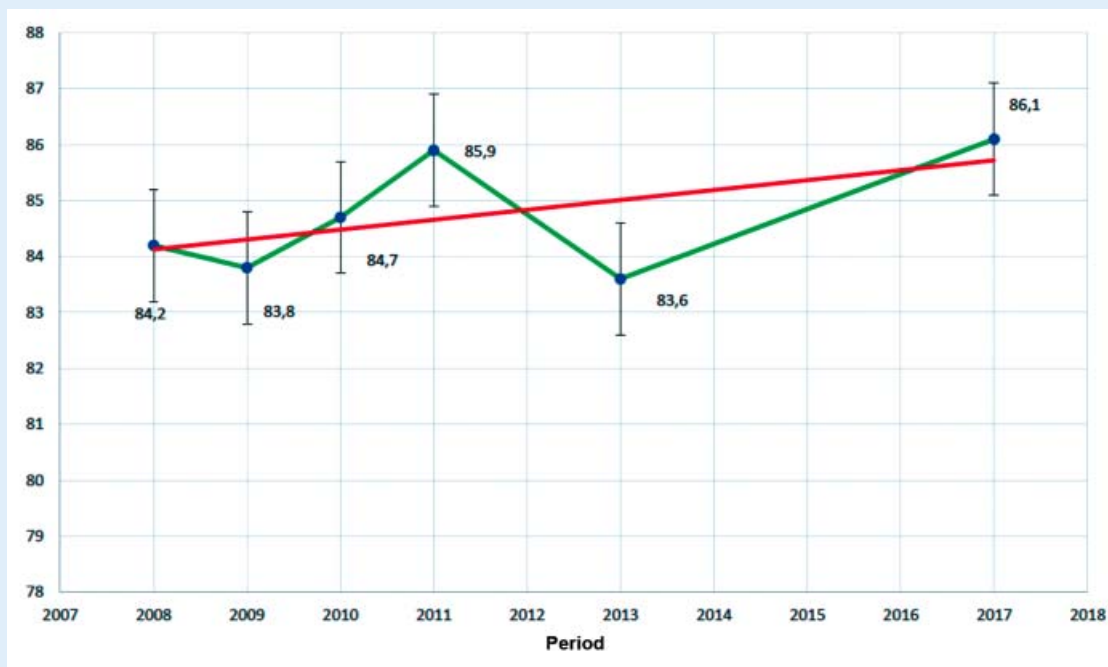
Quality as seen by patients

In 2017, Na Homolce Hospital participated for the sixth time in a survey monitoring satisfaction of patients called Kvalita očima pacientů (Quality as seen by patients, KOP). The aim of the project is to measure healthcare quality and patient satisfaction in healthcare facilities throughout the Czech Republic. The survey proved that the quality of care provided at Na Homolce Hospital is at a high level in the long term. The hospital achieved the highest ranking, i.e. A+. The survey was implemented at the end of November and the beginning of December 2017. Patients completed questionnaires to assess 50 factors influencing the quality of care in 8 areas:

1. patient's admission to the facility
2. respect and consideration given to the patient
3. patient care coordination and integration
4. information and communication with the patient
5. bodily comfort of the patient
6. emotional support given to the patient
7. involvement of family and loved ones in the patient's treatment
8. release of the patient from the facility

Satisfaction in the individual dimensions influences overall satisfaction. The overall satisfaction for the entire hospital was **86.1%** (83.6% in 2013). Compared with 2013, when the survey was most recently carried out in this format, the overall satisfaction had increased by 2.5%.

Level of damage in pressure ulcers 1 January 2017 – 31 December 2017



Satisfaction survey performed by means of Na Homolce Hospital form

Patients also have the possibility to express their satisfaction or dissatisfaction with our services by means of Na Homolce Hospital form. Collection boxes have been installed for this purpose on all floors of the hospital. It is also possible to provide praise and comments to the hospital electronically, using the hospital website. In 2017, 267 patients chose this method of giving their feedback, most of which were positive feedback (224) on the provided care, which is 37 more items of positive feedback than in 2016.



Electronic Data Storage

In 2017, the Quality Management Department developed and streamlined the features of the Electronic Data Storage intranet electronic application, implemented in 2015. The application provides managerial staff members with an overview of all adverse events, as well as the results of supervisory activities, i.e. internal audits and checks of (closed) medical records. The Electronic Data Storage contains structured and detailed data in the following categories: (1) extraordinary events, (2) falls, (3) pressure ulcers, (4) medication errors, (5) internal audits, (6) checklists, and (7) positive feedback and comments from patients.



Adverse Event Reporting

Na Homolce Hospital has been involved in the central Adverse Events Reporting System aiming at monitoring the incidence of adverse events in clinical practice, central reporting and provision of reporting guidelines in accordance with a single terminology and application of preventive measures, i.e. effective proactive protective strategies. Data are transferred once every 6 months to the Czech Institute of Medical Information and Statistics. The Quality Department is a member of the working group for the creation of national methodologies for adverse event reporting systems, see <http://shnu.uzis.cz/>.

ECONOMIC STABILITY

Costs and revenues

Personnel costs	2017	2016	Increase/decrease 2017/2016	2017/2016 in %
Medicines	81,582,839	86,659,420	-5,076,582	94%
Separately accounted medicines	75,225,644	66,846,638	8,379,005	113%
Blood and blood derivatives purchasing	44,744,026	46,160,668	-1,416,642	97%
Special medical materials	211,668,680	196,258,943	15,409,737	108%
Separately accounted materials	752,400,812	750,067,687	2,333,125	100%
Personnel costs	2017	2016	Increase/decrease 2017/2016	2017/2016%
Wages	1,081,465,877	984,031,805	97,434,072	110%
Obligatory payments	361,376,429	329,597,145	31,779,284	110%
Other costs	2017	2016	Increase/decrease 2017/2016	2017/2016%
Other consumables	81,303,170	86,398,281	-5,095,111	94%
Energy consumption	46,060,942	48,200,075	-2,139,133	96%
Sale of goods	127,297,874	121,244,187	6,053,688	105%
Repair and maintenance	69,714,397	59,548,140	10,166,257	117%
Travel expenses and education	9,387,195	8,550,976	836,219	110%

ECONOMIC STABILITY

Services	120,614,695	113,978,532	6,636,164	106%
Other costs	130,847,786	128,570,736	2,277,050	102%
Depreciation	129,568,800	136,615,324	-7,046 524	95%
Total costs	3,325,388,462	3,162,656,955	162,731,507	105%
Costs before taxes	3,320,502,802	3,151,231,525	169,271,277	105%

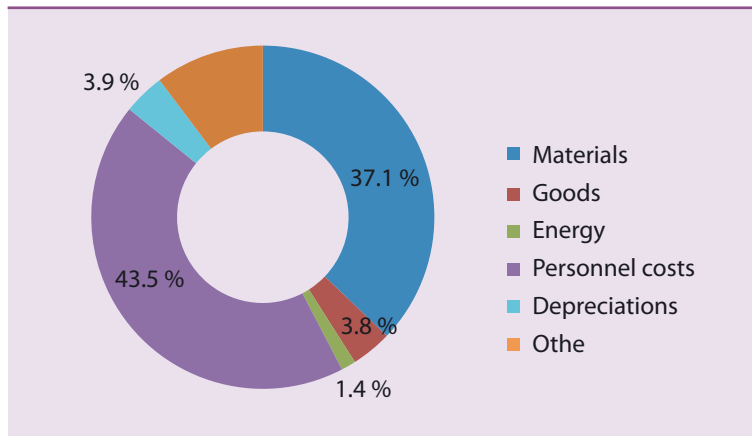
Revenues	2017	2016	Increase/decrease 2017/2016	2017/2016%
Own goods and services	3,002,717,433	2,856,424,392	146,293,041	105%
- of which revenues from health insurance companies	2,931,560,969	2,791,816,086	139,744,883	105%
Sale of goods	175,982,669	165,250,227	10,732,442	106%
Financial and other revenues	158,697,547	148,263,831	10,433,717	107%
Total revenues	3,337,397,649	3,169,938,450	167,459 200	105%

Profit (loss)	2017	2016	Increase/decrease 2017/2016	2017/2016%
Profit (loss) before taxes	16,894,847	18,706,925	-1,812,077	90%
Profit (loss) in the accounting period	12,009,187	7,281,495	4,727 693	165%

Cost structure by types

Total	100%
Materials	37.1%
Goods	3.8%
Energy	1.4%
Personnel costs	43.5%
Depreciation	3.9%
Other	10.3%

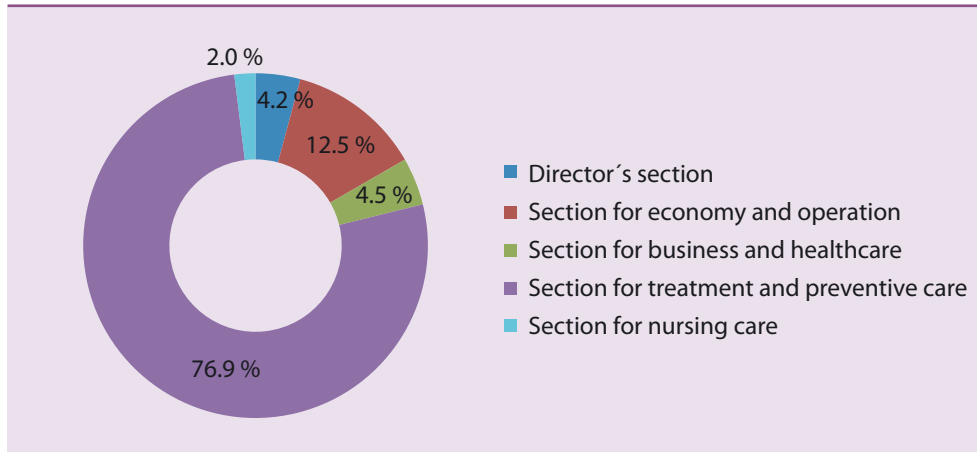
Cost structure by types



Cost structure by sections

	2016	2017	2017 (in %)
NHH total	3,151	3,321	100%
Director's section	128	139	4.2%
Section for Economic and Technical Administration	378	415	12.5%
Section for Business and Medical Care	142	148	4.5%
Section for Treatment and Preventive Care	2,442	2,553	76.9%
Section for Nursing Care	61	65	2.0%

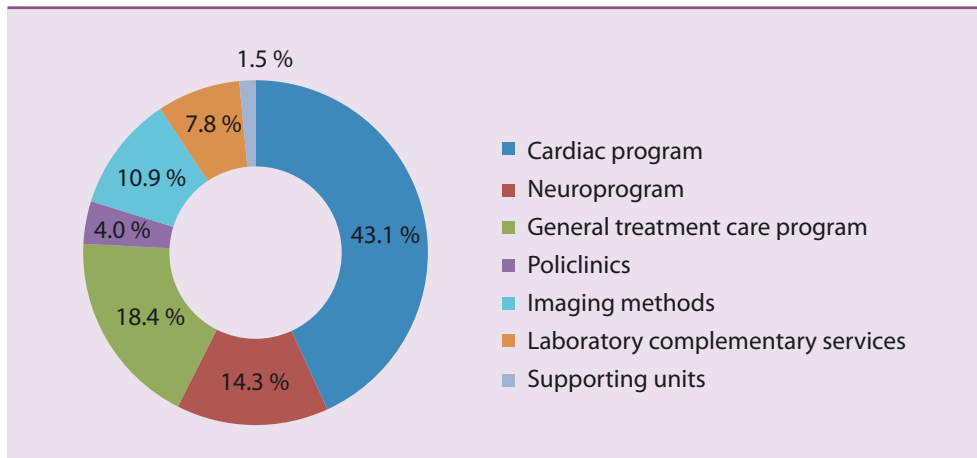
Cost structure in by sections



Medical costs structure by programs

	2016	2017	2017 (in %)
Section for Treatment and Preventive Care	2,442	2,553	100%
Cardiac program	1,060	1,101	43.1%
Neuroprogram	360	365	14.3%
Program of General Medical Care	427	469	18.4%
Polyclinics	97	102	4.0%
Imaging methods	278	277	10.9%
Laboratory complementary services	190	199	7.8%
Supporting units	31	39	1.5%

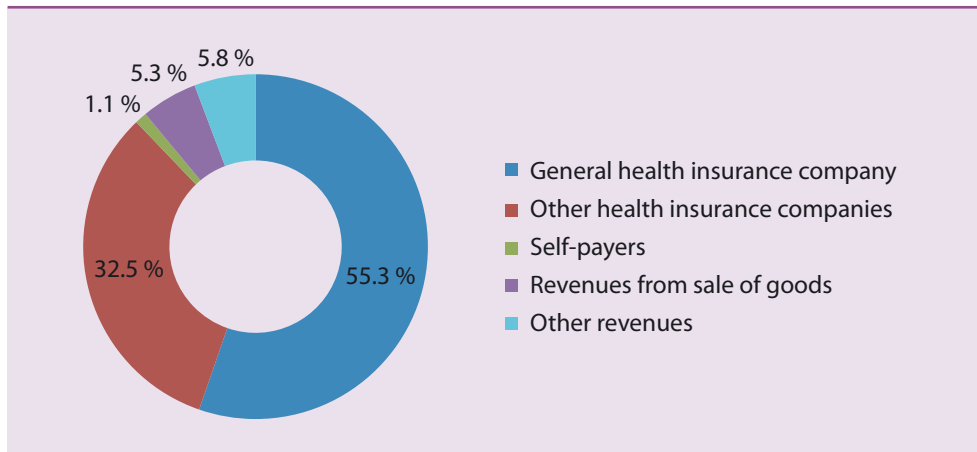
Medical costs structure by programs



Structure of revenues

Total	100%
General health insurance company	55.3%
Other health insurance companies	32.5%
Self-payers	1.1%
Revenues from sale of goods	5.3%
Other revenues	5.8%
Number of points per physician	6,361,649
Number of outpatient points per physician	2,355,220

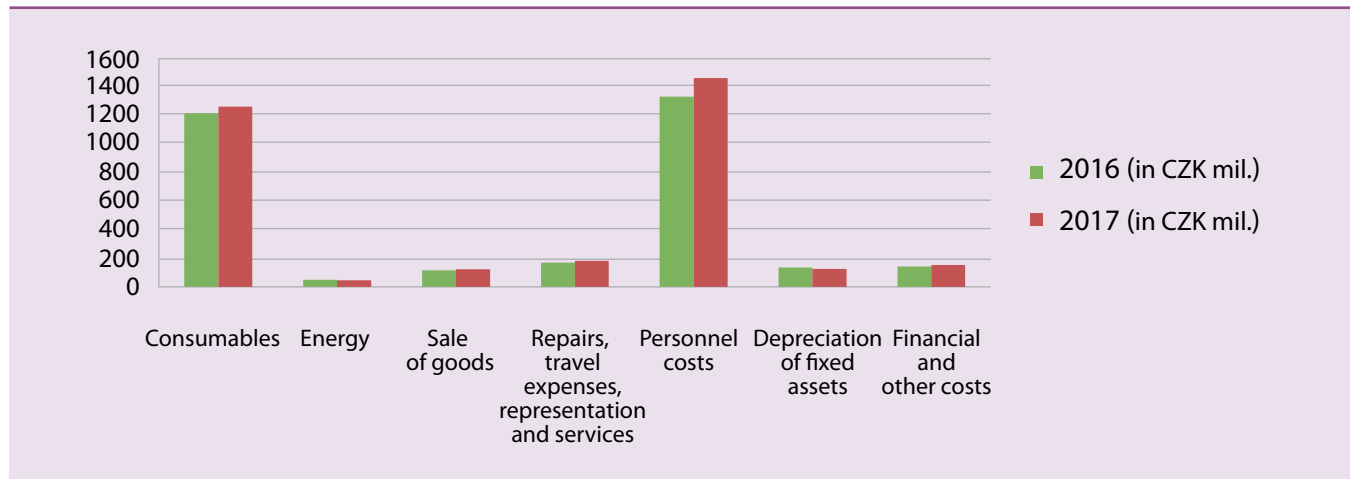
Structure of revenues



Total costs and revenues (in mil. Of CZK)

Costs	2016 (in CZK mil.)	2017 (in CZK mil.)
Consumables	1,207	1,233
Energy	48	46
Sale of goods	121	127
Repairs, travel expenses, representation and services	182	190
Personnel costs	1,314	1,443
Depreciation of fixed assets	137	130
Financial and other costs	143	151
Total costs before taxes	3,151	3,321

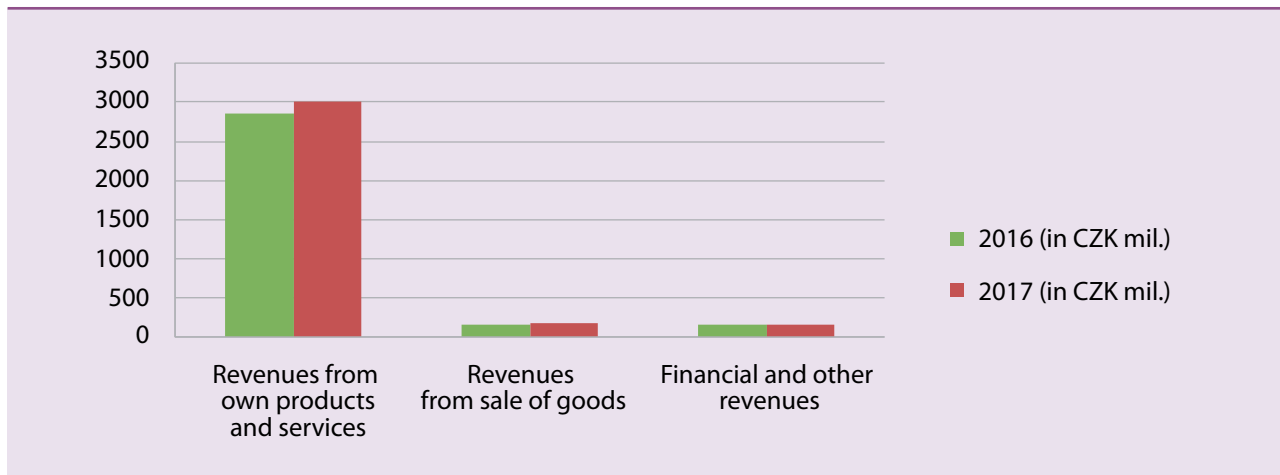
Comparison of costs in years



ECONOMIC STABILITY

Revenues	2016 (in CZK mil.)	2017 (in CZK mil.)
Own goods and services	2,856	3,003
Sale of goods	165	176
Financial and other revenues	148	159
Total revenues	3,170	3,337
Profit (loss) before taxes	19	17

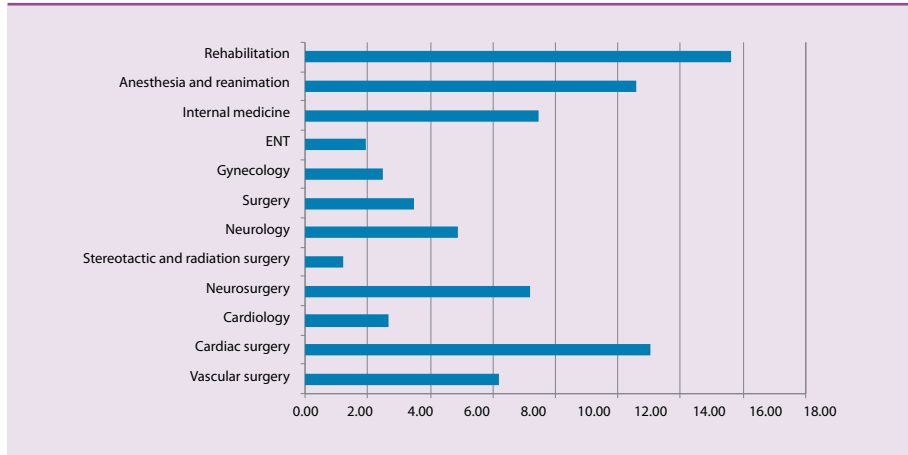
Comparison of revenues in years



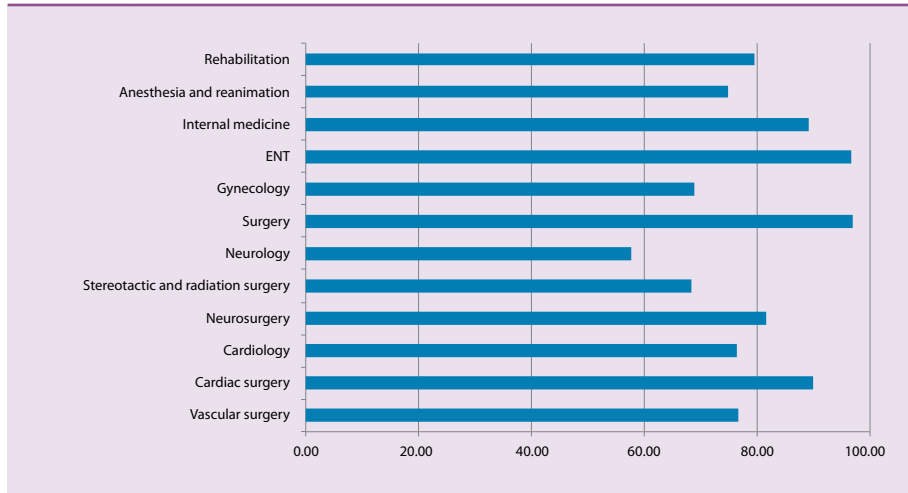
ECONOMIC STABILITY

			2017		
Cost unit	Title	Mortality	Average treatment time	Treatment days	Bed occupancy rate (in %)
01	Vascular surgery	1.3%	6.20	15,711	76.65
02	Cardiac surgery	2.2%	11.03	9,951	89.84
05	Cardiology	0.7%	2.66	13,870	76.23
11	Neurosurgery	0.5%	7.19	17,700	81.64
12	Stereotactic and radiation surgery	0.1%	1.23	1,155	68.42
15	Neurology	2.6%	4.88	8,511	57.60
21	Surgery	0.1%	3.47	9,305	96.86
22	Gynecology	0.0%	2.48	3,131	68.80
23	ENT	0.0%	1.93	2,790	96.61
25	Internal medicine	3.3%	7.48	9,285	89.17
26	Anesthesia and reanimation	17.4%	10.57	2,124	74.79
31	Physiotherapy	0.0%	13.63	2,672	79.45
NNH	NNH	1.2%	4.91	96,205	79.72

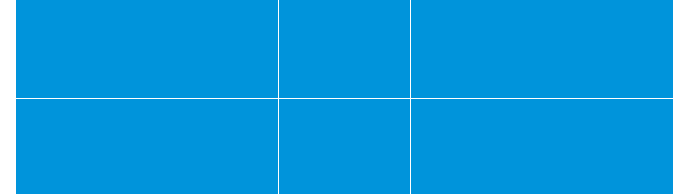
Average treatment time



Bed occupancy rate (in %)



INFORMATION DISCLOSURE



Information disclosure pursuant to Act No. 106/1999 Coll., on Free Access to Information

Pursuant to the provision of Article 18 of Act No. 106/1999 Coll., on Free Access to Information (hereinafter referred to as the "Act"), Na Homolce Hospital (hereinafter referred to as "NHH") presents the following annual report for 2017, related to its activities in the field of information disclosure:

- a) The number of submitted requests for information and the number of decisions issued on the denial of a request: NHH received a total of 9 requests for information. No decision on the partial denial of a request was issued.
- b) The number of appeals filed against the decision: None.
- c) A copy of substantial parts of every court judgment on the review of the legitimacy of the decision by a legally bound person to deny information and the list of all the expenses of the legally bound person in connection with the legal proceedings on the rights and obligations under this Act, including the costs related to the legally bound person's employees and legal representation: One court action has been pending, concerning the review of the NHH's decision to deny an application for the provision of information.
- d) A list of exclusive licenses granted, including justification of the necessity to grant an exclusive license: No exclusive licenses were granted.
- e) The number of complaints filed under Article 16a, reasons for filing and a brief description of the manner of their settlement: Two complaints were filed in total.

Date of filing the complaint	Grounds for filing the complaint	Brief description of the settlement
30 January 2017	Failure to adhere to the statutory period for the settlement of the request	Excuse
20 February 2017	Failure to provide all requested information	The procedure was confirmed with the justification that anonymized data are a the subject of a business secret OR constitute a business secret if that fits in the line better

- f) Other information related to the implementation of the Act: None.

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