

**H** NEMOCNICE  
NA HOMOLCE

ANNUAL REPORT NA HOMOLCE HOSPITAL

2019



Organization Accredited  
by Joint Commission International

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# ABOUT US



The year 2019 was a year of economic stability and prosperity. With total revenues of CZK 3.9 billion, the hospital reached a record net profit of CZK 227 million. This result was made possible by positive changes in the purchasing division and austerity measures, which created stable preconditions for development. It was thus possible to approve a record volume of the Investment Plan for 2020 and start a number of key investments.

One of our priorities now is to modernize our property, both in terms of instrumentation and buildings, because they are in a truly precarious state after thirty years of operation. In 2019, investments of nearly CZK 100 million have been made in the hospital property. Out of the most significant investments, I would like to mention the installation of a new version of Leksell's gamma knife called Icon. As a result, it was possible to extend the spectrum of indications to larger tumors, which we have not yet been able to treat with gamma knife. We also acquired, among other things, a new endoscopic system for spinal surgeries or a mobile diagnostic X-ray device for surgical operating rooms, as well as a high-quality 4D echo and extracorporeal circulation.

Last year, we also started work on several major reconstructions, such as energy saving measures worth a total of CZK 0.5 billion or the reconstruction of a kitchen amounting to CZK 70 million. Since our hospital has been struggling with the space limitations for many years, we have also shifted focus to creating strategic plans in order to gain more space in which we will be able to provide health care. These plans are our next priority, because the number of surgical procedures and patients, as I am pleased to say, is growing every year and the interest to receive treatment in our hospital is truly great. The reconstruction will allow us to increase comfort for both patients and medical personnel.

Our third priority is the modernization of information systems, communication technologies and ensuring the cyber security of the hospital. In 2019, the IT team did a huge amount of work in this area. The most important project in the field of ICT remains the project of a new hospital information system. Without a quality hospital information system, our hospital cannot develop meaningfully and effectively.

In the area of providing health care, the hospital fulfilled its function of a highly professional specialized facility without any default throughout the year. On behalf of the entire management, I would like to thank all the hospital employees for this.

Petr Polouček, MD, MBA



Petr Polouček,  
MD, MBA

Director of the Hospital

Zbyněk Mr. Fuksa,  
MD

Deputy Director  
for Treatment  
and Preventive Care

Mgr. Viktor Szabó,  
MBA

Deputy Director  
for Economic  
and Technical  
Administration

Ing. Dušan Chvojka,  
MBA

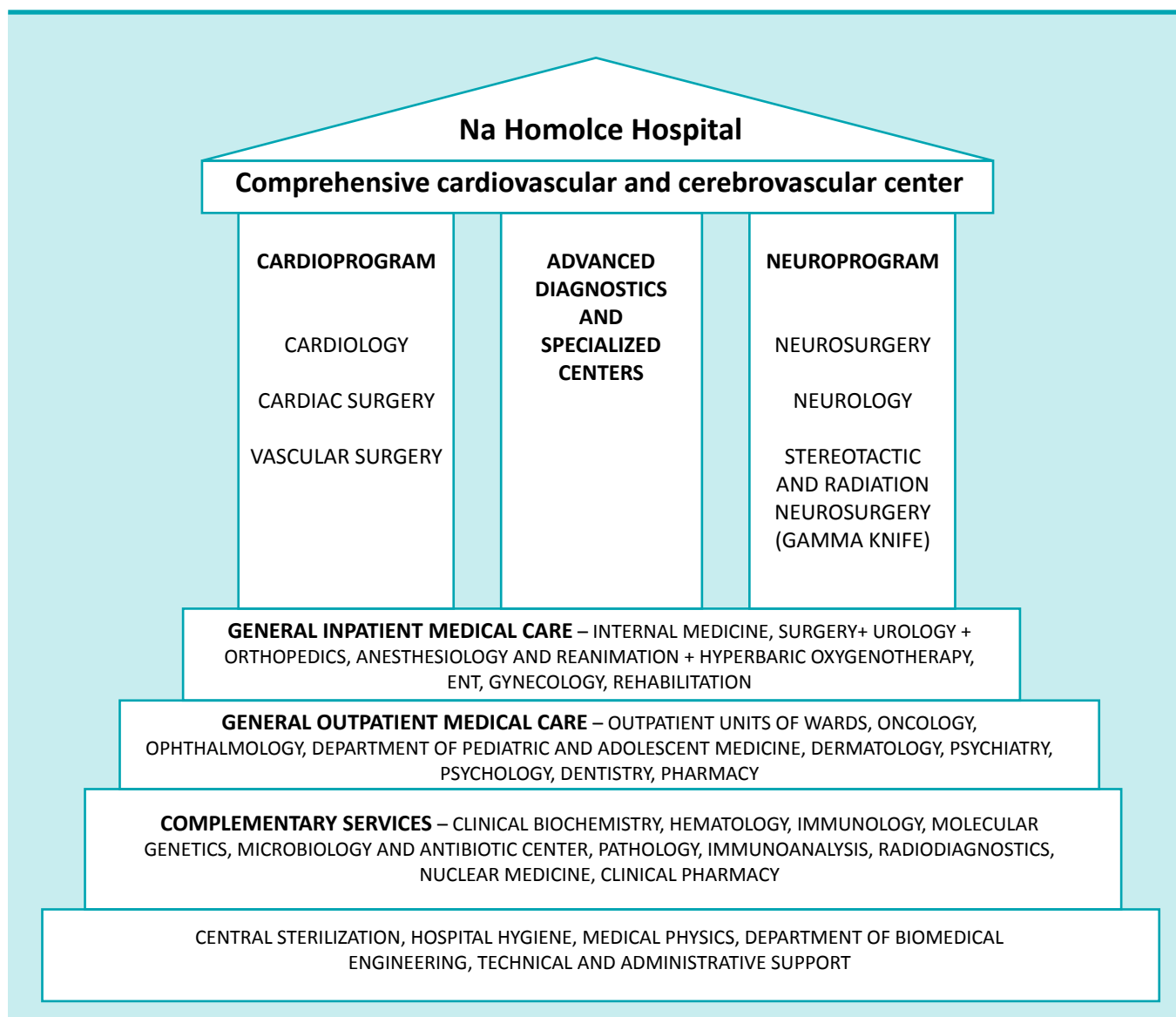
Deputy for Information  
and Communication  
Technologies

Mgr. Ivana Kirchnerová

Deputy Director  
for Nursing Care

Assoc.  
Otakar Bělohlávek,  
MD, Ph.D.

Deputy Director  
for Science  
and Research



## Basic data

Number of employees	Number of beds	Number of admissions	Number of surgeries	Number of outpatient interventions
1 770	357	21 620	15 832	1 184 439

## Personnel and wage data for 2019

	Physicians	Pharmacists	General nursing staff	Other auxilliary medical staff with professional competence	Auxiliary medical staff with professional and specialized competence	Auxiliary medical staff under specialized supervision or direct guidance	Technical and administrative staff	Operators	Total
Total wages paid (in CZK)	354 664 581	12 706 798	465 547 629	89 001 683	36 675 442	80 860 971	147 884 561	42 406 848	1 229 748 513
Average recalculated number of employees	276,43	16,45	685,77	147,85	56,43	200,03	270,77	116,42	1 770,15
Average salary (in CZK)	106 918	64 371	56 572	50 164	54 161	33 687	45 514	30 355	57 893

Auxiliary medical staff - medical staff excluding physicians  
 Technical and administrative staff



# OUR ACTIVITIES

# NEUROLOGICAL-NEUROSURGICAL PROGRAM

## Department of Neurology

Head of Department: Martin Kovář, MD

### Activities of the Department

- Inpatient diagnostic-therapeutic care of neurological patients
- Diagnostics and treatment of epilepsy both in the outpatient consulting clinic and in the Epilepsy Monitoring Unit (EMU), including a complete epilepsy surgery program
- Emergency diagnostics and treatment of patients with acute ischemic stroke and other urgent cerebral diseases - at the neurological intensive care unit (a key part of the Comprehensive Cerebrovascular Center)
- Examination in the Center for Sleep Disorders with two beds for polysomnography and consulting clinic
- Cerebrovascular Consulting Clinic with neurosonology
- Two electromyography laboratories using somatosensory and motor evoked potentials together with all the EMG methods
- Specialized examination room for visual and auditory evoked potentials
- Two electroencephalographic examination rooms and a mobile EEG device
- General neurological clinic

### 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 is part of the inpatient ward of the Department. The center is one of three such centers in the Czech Republic. The inpatient ward of 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** with 12 beds is a central part of the **Center of Specialized Cerebrovascular Care** (formerly a Comprehensive Cerebrovascular Center).
- **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, cerebrovascular consulting clinic, epilepsy outpatient unit, sleep outpatient unit and an outpatient unit for patients with neuromuscular diseases.

## Basic data

Number of physicians	21 (17.8 FTE)
Number of nursing staff	48
Number of administrative staff	2
Total number of beds	36
Number of standard beds	18
Number of ICU beds	12
Number of EMU beds	4
Number of sleep laboratory beds	2
Average treatment period (in days)	5
Number of admissions	1,892
Number of outpatient examinations in total	21,881 (in 9,659 patients)

## Performance overview

### Admissions

In 2019, 505 patients with acute ischemic stroke were admitted. 120 mechanical arterial thrombectomies (compared to 65 in 2017 and 106 in 2018) and 135 intravenous thrombolyses (versus 120 in 2018) were performed in the Department.

The Epilepsy Monitoring Unit treated 157 patients within admissions. Patients underwent a comprehensive diagnostics, in the case of pre-surgical examination, including the use of ictal SPECT in some patients. We have expanded the spectrum of invasive EEG monitoring. In addition to stereotactically inserted hippocampal electrodes and strips, or grids inserted on the brain surface from craniectomy, minimally invasive multiple intracerebral electrodes were also used in six patients. 20 open epileptosurgery procedures were indicated and performed. In 2019, vagus nerve stimulator (VNS) was implanted in only six patients, another 3 implantations were performed at the beginning of 2020, and the decrease was no doubt only temporary, as more implantations, in addition to new class stimulators, are planned.

292 patients have been admitted to the Center for Sleep Disorders, almost 150 patients have been newly indicated for CPAP or BiPAP. Percutaneous vertebroplasty of a lumbar or thoracic vertebral fracture was performed in ninety patients within a short hospitalization. It is an effective and minimally invasive method of treating immobilizing pain resulting from a vertebral fracture.

### Outpatient department

The number of outpatient examinations continues to rise, unfortunately in some units at the cost of longer waiting times for non-acute patients. A positive trend is a continuous increase in the number of patients in specialized outpatient units - epilepsy, sleep, cerebrovascular, neuroimmunological, neuromuscular and extrapyramidal.

### Changes / new events in the previous year

- In 2019, we again treated a record number of patients with stroke using mechanical thrombectomy, mostly from Prague hospitals. The Department easily fulfills the requirements set for the Center of Specialized Cerebrovascular Care (formerly the Comprehensive Cerebrovascular Center). We are developing this treatment in cooperation with the Department of Radiodiagnostics, and the instrumentation is also being improved.
- As one of the few centers, we have a software tool to help our decisions on recanalization, which evaluates cerebral perfusion on CT.
- The Epilepsy Center has begun to use the possibilities of minimally invasive intracerebral electrodes, i.e. electrodes implanted directly into the brain, in patients with seizures that cannot be controlled by drugs. The EEG from the electrodes is used to identify an epileptogenic zone that may be a candidate for surgical removal to cure epilepsy.
- The Center for Sleep Disorders now monitors approximately 750 patients with the device ensuring permanent overpressure in the airways (CPAP or BiPAP) and we can newly remotely monitor the effectiveness of their treatment and reset the parameters.
- We cooperate with the Department of Cardiology in the program of diagnosing non-clarified disorders of consciousness, in the examination and prognosis of patients after cardiopulmonary resuscitation and in the non-pharmacological treatment of atrial fibrillation (collaboration on studies) and hypertension.
- During the 10 week sanitary closure of the neurological ICU, our physicians continued to admit, diagnose and treat patients with acute strokes in collaboration with the Departments of Vascular Surgery, Anesthesiology and Reanimation, and Neurosurgery, so that the commitment towards the Health Rescue Services of the City of Prague and Central Bohemia and the patients with brain stroke in the catchment area of the Department was fulfilled.

### Perspectives for the next year

The main task is to maintain a high standard of care even with a large number of treated patients - both the inpatients and outpatients. In 2020, a lasting high number of patients with acute ictus as the result of mechanical thrombectomy and thrombolysis and in the treatment of patients with other cerebrovascular diseases is expected. We will research the indication of recanalization of the cerebral artery occlusion of borderline patients with more extensive or long-lasting ischemic damage.

This year, the Department of Neurology will care for the majority of patients before and after implantation of deep brain stimulators. These are mainly patients with advanced Parkinson's disease and dystonia, and the procedure itself is performed stereotactically at the Department of Stereotactic and Radiation Neurosurgery.

Consultancy services of the Department are highly sought after even by other neurological sub-disciplines.

### Educational and other specialized activities

- **Lectures, educational activities:** Regular lectures held at the Institute of Postgraduate Studies in Health Care, managing study visits in the field of neurointensive care (Vondráčková, MD, Panský, MD), active participation in foreign conventions, a number of presentations at domestic national events, teaching at the 1st and 3rd Schools of Medicine, Charles University (Assoc. Vojtěch), conducting study visits in epileptology and electroencephalography (Assoc. Vojtěch), electromyographic study visits (Jerie, MD), neurological study visits for physicians in other fields as part of pre-certification training
- **Grant investigators and co-investigators:** Health Research Agencies of the Czech Republic (Head of Department Kovář) and internal grants (Head of Department. Kovář, Assoc. Vojtěch, Jaroš, MD, Červenka, MD)
- **Membership of professional associations:** Czech Neurological Society (Head of Department Kovář a member of the cerebrovascular section committee), Czech League Against Epilepsy (Assoc. Vojtěch a member of the committee), European Stroke Organization, Epistop Civic Association



## 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 2019 in order to provide comprehensive and safe services that improve patients' quality of life.

### Activities of the Department

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 and, since 2019, SAK accreditation standards as well.

Patient care was traditionally provided in four key areas - as part of the neuro-oncological, neurovascular, functional neurosurgical and spinal programs. In 2019, a total of 2,673 surgeries were performed, 2,860 patients were admitted and 8,057 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 2019, 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 fully conscious. 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 2019, 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 2019, 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.

The year 2019 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 flowmeter 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 microsurgery 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.

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 Reanimation.

### 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 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. Since 2019, we have expanded our surgery portfolio to encompass an endoscopic approach, which allows us to completely minimize the access path and thus reduce the morbidity of intervention.

The range of spinal tumor operations included in 2019 all types of lesions, including intradural, extradural, intramedullary and extramedullary tumors.

## Operational data

Total number of beds	65
Number of standard beds	45
Number of intensive beds	8
Number of intermediate beds	12
Number of physicians	18
Number of general nursing staff	88
Number of outpatient interventions	8,057
Number of admissions	2,860
Bed occupancy rate (in %)	80
Average treatment period (in days)	7.2

## Breakdown of interventions

Cerebral tumors	243
Vascular diseases	210
Functional procedures	75
Spinal diseases, including tumors	1,615
Craniocerebral injuries	105
Other	599
Total	2,673

## Educational, research and other specialized activities

- The Department of Neurosurgery of Na Homolce Hospital is a training center for physicians preparing for postgraduate examinations in neurosurgery, both in cranial neurosurgery and in spine surgery.
- In 2019, neurosurgeons of Na Homolce Hospital were involved in postgraduate training of neurologists and surgeons for postgraduate certificate and organized study visits in neurosurgery for Czech and foreign physicians.
- In 2019, 7 internal grant projects were carried out in the Department of Neurosurgery. Furthermore, in cooperation with the Czechoslovak Academy of Sciences, research into glial cancer diseases is being carried out within the framework of the Grant Agency of the Czech Republic. The physicians took an active part in international and national congresses and gave 18 presentations in 2019. 3 important works were published in prestigious journals. Two physicians participated in long-term internships at major workplaces around the world.

## Department of Stereotactic and Radiation Neurosurgery

Head of Department: Assoc. Prof. Roman Liščák, MD, Ph.D.

### Activities of the Department

Radiosurgical treatment using the 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

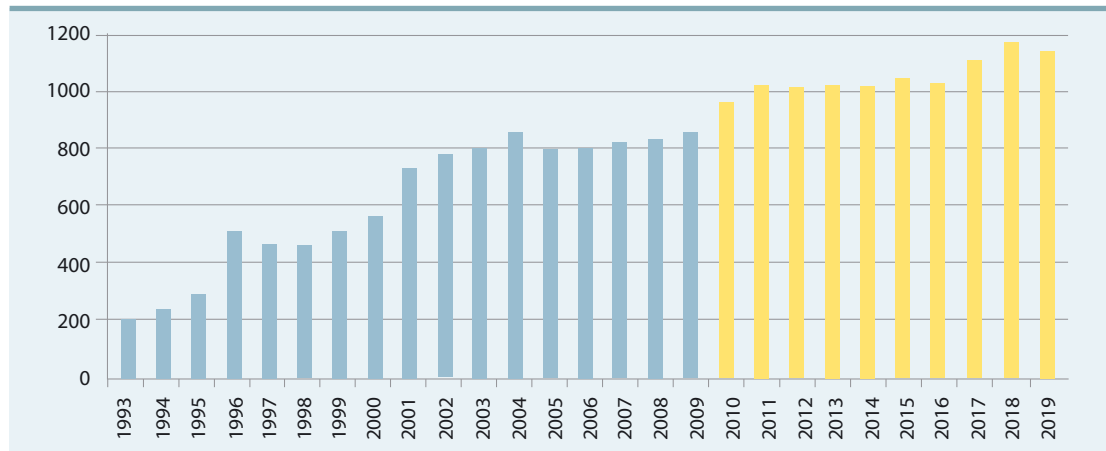
**Inpatient ward:** 1 operating room for stereotactic and functional neurosurgery, Leksell gamma knife treatment unit

### Operational data

Number of physicians	5 + 2 external ophthalmologists, 2 neurologists, 1 systemized post vacant at present
Number of nursing staff	12 + 1 radiology laboratory assistant
Number of other staff	7 (3 attendants, 4 members of paramedical staff)
Number of beds	8 - short stay ward (Monday-Friday)
Number of operations performed using Leksell gamma knife	1,129
- Of which 135 were foreigners (12%) - Poland 6, Slovakia 128, Ukraine 1	
- Form S 2	119
- Self-payers from EU	15
- Contractual price	1
Number of other operating room surgeries	183
- of which 50 were deep brain stimulation (23 primary implantations, 27 reimplantations)	
Number of admissions	1,034
Number of outpatient examinations	1,650



Number of patients treated with gamma knife in individual years (yellow after the installation of the Perfexion model)



## Changes / new events in the previous year

- In 2019, we recorded two events significant for our Department. **First, on February 8, 2019, a cumulative number of 20,000 treated patients have been reached since the use of gamma knife has been launched in 1992.** So far, no other workplace used gamma knife to treat more patients on a global scale. In total, we treated 1,129 patients with gamma knife in 2019, which is only 22 less than the so far highest number in 2018, despite a longer summer downtime. Another significant event is related to this, and that is **the update of the gamma knife to the latest Icon type, which took place during August.** The Icon system is a Leksell gamma knife dosimetrically identical with Perfexion, but with an additional cone beam computerized tomography (CBCT) rotation system and an infrared camera control system that monitors patient movement during irradiation when using a mask to fix the patient's head. **Upgrading the existing Leksell gamma knife Perfexion to Icon expands the existing options as follows:**
  - a) It allows the patient's head to be fixed using a thermoplastic mask, so it is not necessary to attach a stereotactic frame to the patient's head, and the head fixation is thus completely non-invasive and analogous, as is common in radiotherapy. However, this does not mean that fixation with a stereotactic frame will be abandoned, on the contrary. In most cases, we will continue to do so. Fixation using the mask will allow hypofractionation, i.e. application of the radiation dose in several fractions, which will thus expand the treatment options of the gamma knife in situations where the single irradiation with gamma knife was not suitable due to the disease process. This is most often the case when the tumor is too large to perform a single irradiation, but hypofractionated gamma knife irradiation allows to apply multilevel irradiation with all the technical advantages of a gamma knife, such as very precise spatial distribution of radiation dose corresponding to the shape of the disease, while the exposure of its surroundings rapidly decreases.

- b) The second major benefit is CBCT (cone beam CT), where the gamma knife itself ensures the necessary stereotactic reference examination. Thus, magnetic resonance imaging with a higher magnetic field – 3T can be used for anatomical targeting of the disease process. Magnetic resonance imaging with a higher magnetic field provides a more detailed anatomical image, but with worse spatial distortion, so it was safer to use a lower magnetic field for gamma knife treatment. This limitation is thus eliminated with the Icon gamma knife, which opens up another possibility of improving the treatment with a better image of the brain, which was otherwise hampered by high demands on spatial distortions. Strict requirements for stereotactic MR examination will cease to hamper the technical development of the Department of Radiodiagnostics, which requires the renewal of the oldest MR device in 2020.
- In 2019, a new service contract was signed with Elekta for another 4 years, it is thus valid until 2023. In this time horizon, it is then necessary to take into account the replacement of existing Co<sup>60</sup> radiation sources.
  - The number of foreigners in 2019 increased to 12%, due to a larger number of patients from Slovakia. This is due to the ongoing reconstruction of the radiosurgical workplace in Bratislava. After its completion, a decrease in their number can be expected. The contract price for gamma knife treatment has been badly set for a long time, so it was paid only by 1 foreigner outside the EU.
  - In 2019, we offered further international radiosurgical courses, together with the Department of Medical Physics. In 2019, five courses were held with a total of 15 participants, who came from the following countries: Netherlands (5), Turkey (4), Belgium (1), Italy (1), Singapore (1), United Kingdom (1), Romania (1), Czech Republic (1).

### Perspectives for the next year

- We will continue organizing four-day educational courses for foreign participants and we have announced five terms for 2020.
- It is necessary to negotiate the payment of hypofractionated gamma knife treatment to match the real costs of the Department.
- Should the contract price for gamma knife treatment have a perspective, change will be necessary.
- The new possibilities of the Icon gamma knife are hindered by the capacity of our Department and it will be necessary to verify the possibilities of contractual outpatient accommodation for patients indicated for hypofractionated treatment.

### Educational and other specialized activities

- In 2019, 6 neurosurgeons underwent a study visit in our Department.
- In the course of 2018, the gamma knife was visited by 195 registered visitors in the controlled area.
- In the period from October to December 2019, 23 students of the Faculty of Biomedical Engineering of the Czech Technical University completed professional internship at our workplace.
- 2 grant projects supported by the institution and 1 project supported by the Czech Grant Agency were carried out.
- Publications: 13 articles in foreign impact journals and 2 chapters in books – one domestic and one foreign.

# CARDIOVASCULAR PROGRAM

### Department of Cardiology

Head of Department: Prof. Petr Neužil, MD, Ph.D., 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 2019.

#### Multifunctional Catheterization Unit

The number of catheter ablations has been increasing for several years. In 2019, our Department carried out a total of 1,409 ablations (increase by 10 %), 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 approximately 80% of all ablations. Most cases of comprehensive ablations related to ablations of atrial fibrillation – a total of 927 procedures (of which 60% of ablations were due to paroxysmal form and 40% due to persisting or long-term persisting forms of atrial fibrillation). The number of catheter ablations for ventricular tachycardias remained stationary compared to 2018, with a total of 170 procedures. Out of that, idiopathic ventricular tachycardia ablation accounts for 60% of the procedures, while the remaining 40% are ablation in structural cardiac diseases.

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

In 2019 clinical research, the Department was involved in developing and validating the effectiveness and efficiency of new mapping and ablation technologies such as:

- pulsed electric field ablation,
- ablation with automatic laser beam movement,
- innovative 3D imaging system with the option of short ablation with high-energy applications,
- mapping system to identify potential sources – the so-called electrographic flow map, etc.

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. The Department specializes in defibrillator implantation (525 procedures, increase by 3%) and cardiac resynchronization therapy (228 procedures, increase by 8%). A new method of physiological stimulation from the area of His beam or a more distal conduction system of the septum is being developed, which may be an alternative to traditional biventricular stimulation. The Department continues implantations of the so-called subcutaneous ICDs, there were a total of 19 implants in 2019. Implants are also connected with procedures when stimulative or defibrillating electrodes need to be extracted. The total number of these procedures in 2019 was 62 with the rate of success reaching 99%.

Since 2012, the Department has been the world-wide recognized development center for implantation of leadless pacemakers. In 2019, we successfully implanted 28 of these unique devices.

Our electrophysiological laboratory closely cooperates with a syncope and neurology outpatient unit in diagnosing cardiac arrhythmias, non-clarified disorders of consciousness or cryptogenic cerebral strokes. Of these indications, an implantable Reveal LINQ heart monitor was implanted in 2019 in a total of 119 patients (an increase by 30 %).

We have long been dealing with non-pharmacological prevention of embolization stroke, one of the options is the cathetrization left atrial appendage occlusion. In 2019, a total of 62 of these procedures were performed (compared to 28 procedures in 2018).

Our center participated in the organization of a number of Czech as well as international conferences and workshops (including direct inputs from our laboratories). The most important include the Prague Ablation Workshop on Catheter Ablation (Prague), FAFA Symposium 2019 (Germany) and the AF Symposium 2019 (U.S.A.).

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

## Intervention cardiology

A total of 3,531 catheterization procedures were performed, of which 3,111 were diagnostic coronary angiographs and 861 were percutaneous coronary interventions. **The program of structural cardiac interventions is being further developed**, including foramen ovale patents closure, defect of the atrial septum, pulmonary vein stenoses and closures of paravalvular leaks; certain unique combined cathetrization procedures for structural cardiac defects were performed. **The total number of catheterizations of defects of the interatrial septum increased to 99, making the Department one of the centers performing the highest number of these interventions.**

The transcatheter aortic valve implantation (TAVI) program also continued, in 2019, a total number of 74 procedures were performed (it was 34 procedures in 2017 and 72 procedures in 2018). We recently performed mitral valve catheterization interventions for mitral valve insufficiency, and the MitraClip system was implanted in 6 patients. The procedures were performed without complications.

This program is highly complex with regard to both the scope of diagnostic preoperative examinations, interventions and postoperative care and the demanding multidisciplinary cooperation. TAVI is successfully performed in analgosedation in a large proportion of patients, allowing for earlier physiotherapy and mobilization and subsequent discharge of these patients.

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 5 more patients in 2019. 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.

As part of the internal grant, we launched coronary interventions using the shockwave system. It is an intracoronary lithotripsy, which is a new and very effective method in patients with markedly calcified coronary arteries.

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

As in the previous years, we participated in the organization of a closely specialized workshop in interventional cardiology imaging methods (IVUS workshop), 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 9,518 examinations is the best ever achieved ever and the situation is the same for esophageal echo examination.



Multifunctional Catheterization Unit

<b>Ablations - total</b>	<b>1,409</b>
Ablations according to arrhythmias:	
Atrial fibrillation	927
paroxysmal	546
persisting	326
long-term persisting	55
re-ablations	200
Atrial flutter	56
Atrial tachycardias	71
Non-selective RFA of AV node	23
Atrioventricular nodal reentry of tachycardia (AVNRT)	126
Wolff-Parkinson-White syndrome (WPW syndrome)	30
Ventricular tachycardia	170
structural	61
non-structural	109
<b>ICD (implantable cardioverter defibrillators) - total</b>	<b>525</b>
ICD: primary implantation	331
ICD: exchanges	194
CRTD	228
VVI ICD	100
DDD ICD	178
Subcutaneous ICD	19
<b>Pacemakers - total</b>	<b>720</b>
Pacemakers: primary implantation	507

## CARDIOVASCULAR PROGRAM

Pacemakers: replacements	213
Leadless pacemakers	28
Extraction procedures - total	62
Subcutaneous monitor implantations (Reveal)	119
Cathetrization left atrial appendage occlusion	62

### Intervention cardiology

Diagnostic catheterization	3,111
Ventrikulography	472
Bilateral cardiac catheterization	187
Percutaneous coronary intervention (PCI)	861
Primary PCI (in acute myocardial infarction)	200
Number of stents	1,291
Fractional flow reserve	223
Intravascular ultrasound	45
OCT	5
Cathetrization occlusion of the defect of the atrial septum (DSS) / foramen ovale patens - PFO	99
Transcatheter aortic valve implantation (TAVI)	74
Percutaneous pulmonary valve implantation (PPVI)	5
Mitral valve catheterization intervention (MitraClip)	6

### Non-invasive cardiology

General and angiology outpatient unit	18,725
Stimulation outpatient unit	7,149
Anticoagulation outpatient unit	2,527

Transthoracic echocardiography	9,518
Esophageal echocardiography	1,303
Outpatient monitoring: Holter ECG + Loop monitor + Omron ECG + BP monitor + ECG card	2,375
ECG stress test (ergometry)	609
Tilt test	94
Outpatient electric cardioversion - total	903

**Coronary unit**

Acute coronary syndrome	348
Extracorporeal membrane oxygenation (ECMO)	14
Length of hospitalization (median)	2
Total mortality (in %)	6.22

**Operational data**

Total number of beds	52
Number of standard beds	30
Number of intermediate beds	4
Number of intensive beds	18
Number of physicians	41
Number of general nursing staff	122
Number of outpatient interventions	46,635
Number of admissions	5,243

## Department of Vascular Surgery

Head of Department: Prof. Petr Štádl, MD, Ph.D.

### 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, international training center in the area of robot-assisted vascular surgery
- Outpatient care and follow-up of patients undergoing vascular surgery and patients indicated for conservative treatment

### Organizational units of the Department

Outpatient units	6 examination rooms
Reception	1
Standard bed station (B)	17 beds
Standard bed septic station (A)	17 beds
Intermediate care unit	13 beds
Intensive care unit (6th floor)	5 beds
Intensive care unit (2nd 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 radiologists for some acute procedures. The Department provides continuous operation for urgent vascular surgery procedures and above-regional service for difficult aorta surgeries.

## Operational data

Number of physicians	18
Number of nursing staff	107
Number of auxiliary medical staff	24
Number of paramedic staff - attendants	1
Number of technical and administrative staff	7
Number of standard beds	34
Number of intermediate beds	13
Number of ICU beds	12
Number of admissions	3,048
Number of admitted patients	2,361
Bed occupancy rate (in %)	74.51
Average treatment period (in days)	6
Number of treatment days	16,238
Mortality (in %)	1.06
Number of outpatient examinations / number of examined patients	16 052 / 8 657

## Number of interventions

<b>Surgical interventions - total</b>	<b>1,961</b>
Thoracic aneurysm - classical	33
Thoracic aneurysm - stent graft	22
Abdominal aneurysm classic - classical	54
Abdominal aneurysm - stent graft	46

Aneurysm of popliteal artery	10
Aortofemoral reconstructions	68
Pelvic reconstructions	18
Extra-anatomic reconstructions	24
Treatment of infections vascular prosthesis	24
Aortic arch branch surgeries - total	155
Of which: Carotids - endarterectomy	143
Glomus tumor	0
Carotid aneurysm	1
Bypass or implantation of carotid/subclavian	8
Bypass from ascending aorta (sternotomy)	3
Femoropopliteal proximal reconstructions	59
Reconstructions of arteries in the groin area	106
Crural reconstructions - total	171
Varicose vein surgeries	474
Of which: Classical	424
Radiofrequency	50
AV shunts	27
Transplantation of vascular allografts	6
Xenografts	7
Hybrid surgeries	81
Robot-assisted surgeries - total	35
Of which: Abdominal aorta aneurysm	10
Aortobifemoral bypass	13
Aortofemoral unilateral bypass	6

Iliacofemoral bypass	1
Endoleak	1
Deliberation of coeliac artery	3
Spleen artery aneurysm	1
Laparoscopy surgeries:	8
Of which: Iliacofemoral	1
Aortobifemoral	3
Aortofemoral	3
Thoracoscopic thoracic sympathectomy	8
Lumbar sympathectomy by laparoscopic method	0
Endoscopic sampling of vena saphena magna	
for vascular reconstructions	1
Vascular Interventions in collaboration with the Department of Radiodiagnostics	604
Malignant diseases of the vascular system	1

## 2019

- Since January 2008, the Department of Vascular Surgery has been managed by Prof. Petr Štádler, 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 2019, the Department carried out the largest number of vascular surgeries since its foundation, i.e. almost two thousand. Comprehensive diagnostics and surgical treatment of diseases of the vascular system are routinely performed, 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 (these procedures have been newly covered by public health insurance since 2018).

- 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. Both the aforementioned types of procedures increased in 2019. Cooperation with the National Institute for Cardiovascular Diseases (NÚSCH) in Bratislava was initiated, which resulted in the performance of the first two demanding surgeries of Slovak patients in the area of the thoracoabdominal aorta. In 2019, German physicians from Kiel also received training in robotic vascular surgery.
- Another important area vascular surgery deals with is endovascular program. 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. The created team of vascular surgeons and radiologists (P. Šedivý, MD, Ph.D., K. El Samman, MD, H. Přindišová, MD, A. Šnajdrová, MD), who are actively involved in endovascular procedures, continues successfully. Both vascular surgeons who are members of the endovascular team have the required specialization certification.
- The Department also performs complicated interventions to treat infections of vascular prostheses using vascular allografts, femoral veins or xenografts. 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 of Vascular Surgery 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 2019, a bovine pericardial prosthesis (xenograft), which is not subject to extra approval by a relevant health insurance company any more, was used in seven cases of vascular prosthesis infection. There were no major changes in personnel.

### Outlook for 2020

- The Department of Vascular Surgery will also provide comprehensive diagnostics and the complete range of surgical treatment of arterial and venous diseases focused on new trends in 2020. We plan to cooperate with the Department of Cardiac Surgery in addressing vascular conditions falling into both these specializations. Thoracoabdominal aortic surgeries will be further developed. Minimally invasive approaches in operations with a focus on robot-assisted and 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.



- We will continue to perform minimally invasive surgery using a 3D laparoscopic tower, in agreement with the Head of the Radiology Department, Prof. Vymazal, the successful cooperation of both departments in the endovascular program will continue. 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 technically and economically highly demanding and the Department still does not have a septic operating room for this purpose. Negotiations with insurance companies will have to be initiated to cover these demanding interventions. The focus of the Department on the latest trends in the field of minimally invasive approaches in arteriovenous surgery is also of great importance.
- Also in 2020, international training activities in robot-assisted vascular surgery will continue (Russia, U.S.A.). 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 Department Prof. P. Štádl, 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. Štádl also holds the post of the president of subcommittee 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, Ph.D., participates in the teaching of medical students of the 2nd School of Medicine, Charles University in Prague.
- El Samman, MD, continues his doctoral studies at the 2nd School of Medicine, Charles University in Prague.
- Mr. Stehno, MD, began his doctoral studies at the 2nd School of Medicine, 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.
- Courses in robot-assisted surgery, vascular surgery and surgery of varicose veins for both domestic and foreign physicians will be organized.

## Department of Cardiac Surgery

Head of Department: Ivo Skalský, MD, Ph.D., 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 unit	3 examination rooms
Standard bed station	14 beds
Intermediate care unit	10 beds
Unit of postoperative and reanimation care	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.

### Operational data

Number of physicians	11
Number of perfusionists	7
Number of nursing staff	95
Number of auxiliary medical staff	22
Number of technical and administrative staff	2
Number of standard beds	14
Number of intermediate beds	10

Number of reanimation beds	10
Total number of beds	34
Number of admitted patients	839
Average treatment period (in days)	11,8
Total number of treatment days	10,228

**Number of Procedures and Mortality**

Total number of surgical procedures	819
Isolated aortocoronary reconstructions	189
Combined procedures (valve, bypass, aorta)	312
Heart valve replacements / plastic surgeries	510
Isolated procedures on ascending aorta and aortic arch	19
Other (myxoma, pericardectomy, PM extraction)	38
Implantation of epicardial stimulation electrodes	2
MAZE surgery (combination with ACB and valve procedures)	125
Operations on the thoracic aorta (combined with other procedures)	85
Robot-assisted interventions	68
Acute and emergency interventions	168
Planned interventions	651
<b>30-day Total Mortality (%)</b>	<b>1,0</b>
30-day mortality in acute interventions (%)	0,8
30-day mortality in elective interventions (%)	0,2
<b>Number of outpatient interventions (visits)</b>	<b>11,353</b>

### Changes / new events in the previous year

- A total of 819 cardiac surgery procedures were performed in 2019. Despite the acute lack of nursing staff, especially in the post-operative department, we not only managed to maintain, but even slightly increase the total number of surgeries, and again overcome the threshold of 800 surgeries after 3 years.
- We continue to develop robot-assisted surgery, which has become a common part of the range of the cardiac surgery performed at our Department. A total of 68 procedures were carried out, including valve reconstructions, atrial septal defect closures, sampling of arterial grafts for myocardial revascularization, and arrhythmology procedures.
- There is a continuing trend of a high number of valve procedures, which accounted for over 50% of all surgeries. They include both isolated procedures (on a single valve), and combined procedures (combined with other valves or other interventions).
- The number of combined interventions indicating the complexity of surgical interventions is above 40% of all surgical procedures.
- Approximately 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 1.0% is considerably lower compared to the predicted mortality calculated according to Euroscore, an international scoring system, which is 5.6%. Acute interventions contributed to the total mortality by fourth fifths.
- In the field of valve surgeries, there is still a trend of performing reconstructive surgery, rather than valve replacement. The long-term share of reconstructive surgeries, especially of mitral valves, is about 70%. Thanks to these results, we have repeatedly ranked as the leading cardiac surgery center in the Czech Republic. In this regard, we can emphasise that approximately two thirds 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 7% 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.
- The Department is regularly involved in clinical studies in collaboration with international institutions and our Department of Cardiology. The promising results mean a great perspective, especially for our patients.
- Since the beginning of last year, we have managed to establish close cooperation with the cardiac surgery center in Ústí n. Labem, and we offer cardiac surgery care for their patients.
- 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 2020, we plan to perform 800 surgeries again. We presume the range of procedures will be similar to the previous year.
- We will further develop four systematic programs which form our foundation stones. They are: the treatment program for aortic diseases (cooperation with Vascular Surgery and Radiology), the program for surgical treatment of valve disorders, the program for congenital heart defect treatment in adulthood (cooperation with the Children's Cardiac Center of the Teaching Hospital in Motol) and robot-assisted surgery.
- In the field of minimally invasive procedures, we would like to remain a leading center in the Czech Republic.

## 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 postoperative 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, anesthesia for the ablation of renal arteries in patients with high blood pressure and for electrical cardioversions.

#### 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 No-valung 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.

### Operational data

Number of physicians	10
Number of nursing staff	9

### Administered anesthesia for

Cardiac surgery	1,305
cardiology procedures	987
procedures longer than 2 h	1,192
procedures longer than 6 h	224

# PROGRAM OF GENERAL MEDICAL CARE



## Department of Internal Medicine

Head of Department: Viera Křížová, MD

### Activities of the Department

The Department of Internal Medicine provides back-up for the activities of the key disciplines of the hospital (Cardiovascular Program and Neuroprogram), to the inpatient ward and to the Polyclinics, Department of Gastroenterology and Center for Pulmonary Endoscopy. The majority of hospitalised patients are diagnostic admissions from all disciplines of the internal medicine, i.e. gastrointestinal, respiratory, cardiac, diabetic and infectious and autoimmune diseases.

In a number of cases, 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 total capacity of the unit is eight beds. On these beds, we provide comprehensive intensive care for often polymorbid patients with primarily internal issues. Due to the lack of beds at the Department of Oncology, we often provide the beds for the patients with complications of the oncology therapy and, last but not least, we also take over patients from surgical fields of Na Homolce Hospital – especially when the patient's surgical issues are solved while the need for the complex nutritional and internal therapy continues. Two beds of the ICU of the Department of Internal Medicine are equipped for providing artificial lung ventilation, the cleansing methods are represented by the intermittent hemodialysis which is provided in cooperation with the hemodialysis center B-Braun, s.r.o. Our ICU also provides the back-up for monitoring and observation of patients after gastroenterological surgical procedures and after surgical procedures performed at the Center for Pulmonary Endoscopy.

### Inpatient unit

The standard inpatient ward provides comprehensive internal medical care both to patients with acute internal diseases referred by the acute internal medicine outpatient unit, and to patients with planned diagnostic and therapeutic treatments. Patients from the internal medicine outpatient units of Na Homolce Hospital, patients with internal issues from other departments of the hospital (including treated oncology and chronic hemodialysis patients with complications), and patients indicated for observation after invasive procedures (gastroenterology, Center for Pulmonary En-

doscopy, interventional radiology) are admitted to treatment. Treated oncology patients with complications are admitted because the Department of Oncology has no beds at its disposal. We also provide inpatient care to patients of the Homolka Premium Care Program, H Plus Program and relatives of hospital staff.

In general, the Department provides care to a large number of patients from other regions, which is particularly noticeable in the pressure on the acute internal medicine outpatient unit, which is regularly addressed by patients themselves from districts outside Prague. Although the bed occupancy rate percentage is one of the highest in the entire hospital, the inpatient capacity cannot meet the demand. However, the stable average length of hospitalization is mostly the result of long-term parenteral administration of antibiotic treatment and treatment of complicated conditions and therefore cannot be further influenced.

### Internal medicine outpatient unit

Physicians of individual specializations work in specialized inpatient wards, closely cooperating and well substitutable both in the outpatient and inpatient wards. In addition to the traditional general internal medicine outpatient unit, care is provided in pulmonary, gastroenterological and metabolic outpatient units (for parenteral and enteral nutrition, diabetes, endocrinology and lipid counselling).

### Acute internal medicine outpatient unit

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

The acute internal medicine outpatient unit is the most fully used outpatient unit in the Department, the average number of treated patients is 500 to 600 per month. In the past year, the total of 6,368 treatments were performed. 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 Gastroenterology Unit is the showcase of the Department of Internal Medicine. 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 specialised ERCP exami-

nation 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 to the Department. This has been taking place for many years in hygienically unsatisfactory and confined spaces. One-time investments in the instrumental equipment led to partial improvement. We have borrowed the Spyglass set permanently, thereby significantly improving the diagnosis and treatment of biliary diseases. This year, we plan to purchase this device. Unfortunately, the spatial arrangement of the Gastroenterology Unit still does not correspond to its significance within the hospital or its position in Prague and often also the national health care 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. This year, it is necessary to purchase a new endosonographic device as well as perform reconstruction, which will increase the frequency of highly specialized procedures and improve the unsatisfactory sanitary facilities and working conditions for medical personnel.

### Center for Pulmonary Endoscopy

The Center for Pulmonary Endoscopy and related specialized pulmonary outpatient unit offer comprehensive bronchological diagnostics including autofluorescent bronchoscopy, NBI (Narrow Band Imaging) and endobronchial ultrasonography. The combination of new diagnostic methods with the existing methods, such as PET-CT, provides for an exceptional opportunity for early diagnostics 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 the Center for Interstitial Pulmonary Processes, other field pneumologists and other hospitals.

### Educational activities

The Department of Internal Medicine is accredited by the Czech Medical Chamber to train and issue functional licenses in internal medicine, gastroenterology, general medicine, abdominal ultrasonography (F008) and endoscopic ultrasonography (F004). 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 organised 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.

### Operational data

Number of physicians	27 main employment + 6 agreement to complete work + 1 contract for work
Number of nursing staff	53
Number of paramedical staff	9
Number of standard beds	21
Number of intensive beds	8

### Total inpatient unit performance / comparison with 2018

Bed occupancy rate (in %)	87.51 / 85.74
Average treatment period for the entire Department	6.85 / 6.62
Total number of treatment days	9,263 / 8,830
Admissions	1,353 / 1,334

## Department of Clinical Oncology

Senior Physician: Martin Šafanda, MD, Ph.D.

### Activities of the Department

The Department of Clinical Oncology focuses on the treatment of malignant tumors in adult patients. The oncology program consists of four 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-oncology program

- Pulmonary and bronchial tumors

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 randomized studies of phase II and III. Due to the development of tumor epidemiology in the Czech population, an annual growth in 5-7% of cases may also be expected in the future.

### Operational data

Number of physicians	3
Number of general nurses	5
Number of newly admitted patients	679
Number of outpatient interventions	15,986
Number of chemotherapy administered	8,329

## Department of General Surgery

### Head of Department: Ronald Pospíšil, MD

(appointed as of 1 November 2019, Jaroslav Verner, MD was Head of Department until 28 February 2019, David Jirava, MD, acted as the Head of Department from 1 March to 31 October 2019)

### Activities of the Department

The Department carries out a clinical program for general medical care, including both outpatient and inpatient diagnostic and therapeutic care (including ICU) in the field of general surgery, urology and orthopedic surgery. The Department of General surgery treats patients from all over the country, foreign patients and clients of the Homolka Premium Care and H plus preventive programs. It provides consulting services for the hospital and organizes undergraduate and postgraduate courses for physicians.

#### General surgery program

- Gastrointestinal tract surgery from the esophagus to the rectum, 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 surgery, appendectomy, cholecystectomy, diaphragmatic hernia surgery, laparoscopic surgery of the small, large intestine and rectum and minimally invasive thoracic surgery)
- Oncological surgery in cooperation with the Gastroenterology unit of the Department of Internal Medicine and the Department of Oncology, Department of Pathology; particularly oncological surgery of the gastrointestinal tract, lungs and breast in the entire range, including the examination of the sentinel node
- Extensive outpatient surgical activities for both on-duty and specialised consultancy units
- Minor outpatient interventions
- Ostomal consultancy - care of ostomy patients
- Robot-assisted interventions on rectum

#### Orthopedic program

- Total replacement of hip and knee joints, including reimplantations,
- Modern osteotomy with the Stoffel method of metal-plate fixation in surgery of the foot - hallux rigidus; extended range of orthopedic and minimally invasive surgical procedures

- 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
- 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, i.e. urology and orthopedic
- Intensive care unit - A + B units

### Outpatient unit

- **On-duty outpatient surgery:** It 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 surgery, coloprocto-surgery, surgical oncology. It performs diagnostics, assessment and ordering of planned operations, postoperative monitoring, follow-up.
- **Thoracic surgical consulting clinic:** In cooperation with the respiratory consulting clinic and oncology clinic, it provides assessment and ordering of thoracic operations of the lungs, pleura and mediastinum, postoperative monitoring and follow-up continuing care 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, pathologists and oncologists.
- **Orthopedic outpatient unit:** Provides diagnostics, treatment and preoperative assessment of orthopedic 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 physicians of the hospital's Department of Dermatology, and on patients from the surgical consulting clinics and on-duty surgery.
- **Ostomy consulting clinic (under separate management):** Provides comprehensive care (theoretic, pre-admission, preoperative, postoperative and follow-up) and education to ostomy patients. The activities of the consulting clinic involve identification and management of ostomy complications, management and drainage of all types of ostomies and complications, knowledge of all types of ostomy devices and their application, training of the hospital staff from other departments in the area of ostomy patient care.

Operating rooms

- One OR for orthopedic surgery
- One operating room for other surgeries, both open and laparoscopic
- Robotic operating room with Da Vinci Surgical System (used three times a week)
- OR for urologic surgery

Operational data

Total number of physicians	22
Number of surgeons	14
Number of urologists	4
Number of orthopedists	4
Total number of non-medical technicians	73
Number of general nurses	50

Number of nurse practitioners	8
Number of attendants	4
Number of members of paramedical staff	10
Auxiliary staff	1
Total number of beds	26
Number of standard beds	17
Number of ICU beds	9
Average treatment period (in days)	3
Number of treatment days, standard	6,976
Number of treatment days, ICU	2,085
Number of admitted patients	2,454
Number of deaths	4

### Number of interventions

Surgery	1,561
Urology	557
Orthopedics	334
Minor surgical procedures	544
<b>Total</b>	<b>2,996</b>

### Number of outpatient interventions

Surgery	20,827
Orthopedics	13,859
Urology	8,207

Clinical oncology	425
<b>Total</b>	<b>43,318</b>

#### Number of consultancy examinations

Surgery	782
Orthopedics	114
Urology	208
<b>Total</b>	<b>1,104</b>

#### Changes / new events in the previous year

- **Technical equipment:** The laparoscopic and surgical instruments have been partially replaced. A new oscillating saw has been purchased. Printers and computer displays have been partly replaced with new ones at the Department.
- **Surgery:** A multidisciplinary approach has been standardized (surgery, oncology, radiodiagnostics, pathology) in patients with malign alimentary tract and thoracic organs diseases. The number of laparoscopic interventions has increased compared to the traditional method. New approaches have been introduced in addressing incisional hernias and diastasis recti by minimally invasive technique and wound healing using V.A.C. (Vacuum-Assisted Closure) system on a regular basis. We routinely performed procedures for anal prolapses and hemorrhoids using the Long method (PPH).
- **Urology:** Endoscopic uretrotomy is used as a routine method, laparoscopic procedures have been standardized in renal surgeries (pyeloplasty), ureterorenoscopy is used as a routine method. There was an increase in the number of robot-assisted surgeries performed, in particular radical prostatectomy, pyeloplasty and kidney resection.

#### Evaluation of clinical activities

- The Department concentrates on the full operation of general surgery, orthopedics and urology, with a focus on elective procedures, and plans the further development of laparoscopic procedures in the abdominal surgery and thoracoscopic procedures in thoracic surgery. Oesophageal, pancreatic and biliary surgeries are newly performed.

- The Department closely cooperates with the Department of Internal Medicine, Departments of Radiodiagnostics, Pathology and Oncology in the care of oncological patients in regular joint workshops.
- 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 operating rooms, the condition has been continuously monitored in cooperation with the microbiological department and the team responsible for infection control. The number of patients with complications and nosocomial infections has not increased.

### Perspectives for the next year

- An extensive reconstruction of the ICU is to be carried out in the inpatient ward, immediately following the increase in the inpatient capacity of the standard ward.
- Due to a significant increase in the number of oncological patients in the Czech Republic, 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 for these patients.
- Pancreatic, biliary and oesophageal surgeries will be added to the current range of surgical procedures.
- Cooperation with specialists will be extended to include gastroenterologists, pneumologists and endocrinologists in Prague and the Central Bohemian Region.
- Certain physicians will be involved in teaching medical students at the 1st and 2nd School of Medicine, Charles University in Prague.
- The emergency condition of operating lights in the urological operating room on the 7th floor will be solved.
- The training of physicians will continue in the form of regular educational seminars in the Department.
- The information system of the Department of Surgery will be further developed in coordination with the hospital information system.

### Educational and other specialized activities

#### Educational and teaching activities

- Clinical educational seminars for the physicians regularly take place in the Department.
- The Department organized an undergraduate study visit for medical students (4th and 5th year of study) from the 1st, 2nd and 3rd School of Medicine, 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, gastroenterologists, pathologists and radiologists.
- The general nursing staff from the Department of Surgery participated actively and passively in a number of training and lectures necessary to improve their professional knowledge and skills. 2 nurses continue their ARIP studies, 2 nurses are studying at the Nursing School, 7 nurses is studying at a higher vocational school, 3 members of paramedical staff are studying a course for attendants.
- We focused on providing training to nursing staff in the area of ostomy to ensure ostomy care for our patients. Thus, we have 2 ostomy nurses in total who provide consulting in the area of ostomy patient care for the entire hospital.
- We will start lecturing at Czech and foreign congresses in surgery and urology.

#### Specialized activities and membership of professional associations

Physicians from the Department participated actively in several domestic and international congresses, seminars and workshops. 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 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 diagnostics and surgical treatment of gynecological diseases, with emphasis on minimally invasive approaches. The complete range of pelvic surgery concentrated on three main clinical programs in 2019: urogynecological program, 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 vaginal reticulate implants (nets) and put emphasis on the comprehensive treatment of a given issue while observing the rules of minimally invasive interventions. In total, 255 female patients with the above problems were operated on of which 51 interventions were performed with the use of implants.

**Program for comprehensive diagnostics and endometriosis surgery** offers comprehensive treatment to patients from the whole 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 2019, the Department carried out 91 procedures, of which 9 procedures were radical surgeries for infiltrative retroperitoneal endometriosis.

**General gynecological surgery** deals with the surgical treatment of sterility, 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 2019, 1,259 female patients were admitted for treatment to the Department.

The total number of surgical interventions in 2019 amounted to 1,247 surgeries, of which 88% were performed using minimally invasive methods.

## Basic data

Number of beds	14
- standard	10
- ICU	4
Number of physicians	6
Number of nursing staff	24
Number of outpatient interventions	16,987
Number of admissions	1,259
Number of treatment days	3,159
Number of interventions	1,247
Bed occupancy rate (in %)	72.55
Average treatment period (in days)	2.51

## Department of ENT / Head and Neck Surgery

Head of Department: Petr Jiráč, 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 previous years, surgical procedures carried out in 2019 covered a whole range of head and neck surgery – surgeries of the nose and paranasal cavities (mostly as endoscopic procedures), comprehensive surgery of the thyroid and parathyroid glands, microsurgery of the vocal cords and larynx, cophosurgical interventions (ear surgeries), surgeries 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 dental surgeons and neurosurgeons, it performs demanding operations on the facial skeleton and skull base. We cooperate inter alia with experts in allergology 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 diagnostics, surgical treatment and follow-up care, in collaboration with oncologists.

The program of temporomandibular joint treatment has further continued. In 2019, the treatment of diseases of the temporomandibular joint was 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. 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.

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 surgeries, ranging from partial to extensive procedures, 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 2019, the outpatient unit of the Department of ENT / Head and Neck Surgery provided comprehensive services**, including specialised consultancy services in oncology, otoneurology, otoplasty and otoprothetics, outpatient unit for treatment of rhonchopathy, outpatient unit for corrective head and neck surgery, phoniatri outpatient unit, joint outpatient unit (temporomandibular joint), and a specialised outpatient unit for the treatment of salivary glands using endoscopic techniques for diagnostics 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 aesthetic program of corrective surgery of the head and neck which primarily includes procedures on auricles, eyelids and the external nose, and laser operations.

As a 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 diagnostics of early stages of serious diseases of ENT mucosa, particularly disorders of the vocal cords and larynx.

We continue to carry out evaluation of patients with swallowing disorders, in particular in collaboration with the Department of Neurology of Na Homolce Hospital, using the method of detailed evaluation of swallowing disorders FEES (fiberoptic endoscopic evaluation of swallowing), which has been further developed in cooperation with a clinical speech therapist.

A novelty is the use of a sonograph in our ENT outpatient unit in the diagnosis and monitoring of diseases of the salivary glands, thyroid gland and soft tissues of neck. Needle biopsy of tumors in the soft tissues of the head and neck has also been introduced, which enables faster and especially minimally invasive diagnosis of certain diseases (FNAB/FNAC).

In 2019, we also performed the first several surgical procedures that improve the patency of the Eustachian tube - the so-called balloon Eustachian tuboplasty (BET). This opens entirely new possibilities of treatment of impaired patency of the Eustachian tube, which is the cause of some types of deafness.

## Operational data

Number of beds	11
Number of physicians (as at December 31, 2019)	11
Number of general nursing staff	23
Number of outpatient interventions	1,420
Number of consultations	1,188
Number of admissions	1,258
Number of standard care treatment days	2.5
Bed occupancy rate (in %)	92
Average treatment period for standard care (in days)	2.5

## Number of interventions

Surgeries under local anesthesia	694
Surgeries under general anesthesia	1,033
FESS surgeries	180
Thyroid gland surgeries	127
MLS (Microlaryngoscopy)	68
Oncology diagnoses	138
NBI	116
TMJ (temporomandibular joint) surgeries	199

## Outlook for 2020

- 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 procedures necessitating shorter hospital stays.
- The program of functional corrective surgery and rhonchopathy has an increasing trend.
- We continue to perform the newly introduced examination and surgical techniques - sleep endoscopy (DISE) in patients with sleep apnea syndrome, fine-needle aspiration biopsy in some types of soft tissue diseases of neck (FNAB) using sonography.
- Grant support for research in thyroid gland surgery and grant support for research in the use of navigation in sinus surgery (FESS) continues.
- Strong cooperation with dental surgeons in combined ENT / dental surgery procedures continues, focusing on a research project to address chronic rhinosinusitis of odontogenic origin.
- 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 2020.

## Department of Anesthesiology and Reanimation

Head of Department: Zbyněk Fuksa, MD

### Activities of the Department

The Department of Anesthesiology and Reanimation provides two basic areas of health care:

- **Anesthesiology** provides comprehensive preoperative care, care during surgery and postoperative care for patients, including general anesthesia and more complex types of local anesthesia administration.
- **Reanimation** deals with complex diagnostics and treatment of patients whose general health condition and vital signs disorders are life-threatening and require the highest standard of health care. The majority of patients are patients with impaired consciousness, blood circulation and breathing, mostly after major surgeries at Na Homolce Hospital, or patients who have been reanimated by the emergency medical services. The Department has a hyperbaric chamber at its disposal with the possibility of artificial lung ventilation and other special methods of reanimation care.

A specialized **team for acute pain treatment** has been formed within the hospital, which is systematically involved in the monitoring and treatment of acute pain in the inpatients. **Chronic pain outpatient unit** then deals with patients suffering chronic pain.

### Operational data

#### Basic data

Number of FTE of physicians	28.4 (29.5 planned)
Number of FTE of general nursing staff	50.2 (58.5 planned)
Number of beds	8
Bed occupancy rate (in %)	73.8
Average treatment period (in days)	11.07

### Organizational units of the Department

- 1 resuscitation station (8 beds)
- 2 postoperative units of vascular surgery (12 beds)
- 5 central operating rooms
- 3 surgical operating rooms
- 2 gynecological operating rooms
- 1 operating room for robot-assisted surgery
- 8 additional operating rooms and workplaces
- 1 hyperbaric chamber

### Performance overview, admissions and outpatient unit

Number of inpatients	190
Mortality (in %)	22.1
Total number of anesthetics	10,649
Number of anesthetics in patients older than 65 years	3,525
Number of anesthetics exceeding 2 hours	3,244
Number of regional anesthetics	722
Number of hyperbaric oxygenotherapies	734
Number of acute CO poisonings	12
Number of patients in the chronic pain outpatient unit	668

### Educational and other specialized activities

Ivan Vrba, MD is a member of the senior management of the society for managing chronic pain and has been involved in lecturing and publication activities. All physicians regularly participate in educational events within the Czech Society of Anesthesiology, Reanimation and Intensive Medicine, some of them also in selected events abroad. The Department nursing staff has been attending events abroad organized by the ESPEN (European Society for Parenteral and Enteral Nutrition) for the second year.

## 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.

Care is provided to inpatients of the Department, to inpatients of other specialized inpatient units and to outpatients. 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	7
Head physiotherapist	1
Physiotherapists	28
Occupational therapists	2
Nursing staff	4
Paramedical staff	3
Masseurs	2
Administrative staff	3

## Performance overview

Number of outpatient physician interventions	28,750
Number of other staff interventions	82,264
Number of other inpatient non-medical staff interventions	113,145
Total	224,159
Number of patients admitted to the inpatient unit of the Department of Rehabilitation and Physical Medicine	242

## Changes / new events in the previous year

- Additional physiotherapeutic methods have been introduced into the outpatient and inpatient practice.
- In cooperation with the Departments of ENT, Surgery and Urology and with external workplaces, the Department continued to implement two major projects: 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 reeducation. 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.
- Professional consultations were provided for physicians in the Department of Rehabilitation and Physical Medicine and physiotherapists from other departments in the area of rehabilitation diagnostics and therapy of urinary incontinence.
- Physiotherapy students of various faculties were repeatedly enabled to complete the internship within the Department.
- During the year, the Department physicians and physiotherapists participated in professional workshops and congresses, and the Department held workshops led by external lecturers.
- A flexiplode for the treatment with shortwave diathermy, a hydromassage matt, a new whirlpool bath and a laser probe were purchased.
- The range of commercial services has been expanded to include preventive exercises for a healthy back.
- The Department participated in the preparation of electronic nursing documentation.

### Development perspectives for 2020

- Reconstruction of the small pool and shower area is planned for 2020.
- Floor coverings in the outpatient facilities will be repaired in order to increase the safety of employees and patients.
- As part of the planned investments, a new passive motion device will be purchased to treat the shoulder joint.
- We will strive to recruit new physiotherapists to vacant positions in accordance with the personnel directive.
- After the preparation, one physician will be examined for certification in the field of rehabilitation and physical medicine.
- One occupational therapist will be accepted for the special training and another one will complete this training.
- Workshops for physiotherapists and physicians will be organized in cooperation with external lecturers.
- The education of the Department physicians without specialization in the field and preparation for the postgraduate certificate examination will continue.
- We plan to introduce yoga exercises as part of the offer of commercial services.
- For non-medical staff, physiotherapists will prepare an e-learning test in rehabilitation nursing care.



## Department of Clinical Pharmacy

Head of Department: Milada Halačová, PharmD, Ph.D.

### 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.

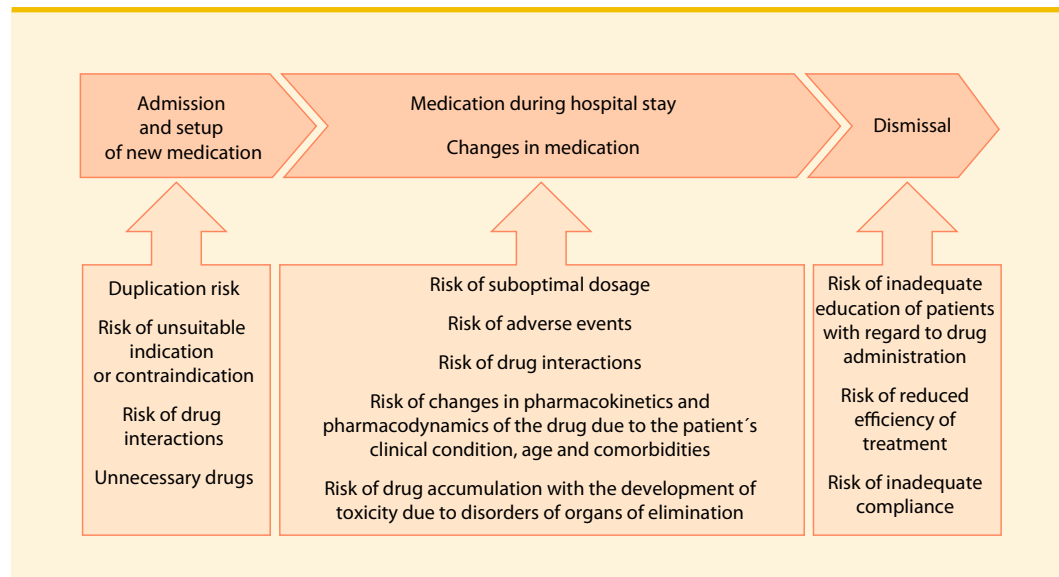
The major areas include (1) the assessment of a newly admitted patient's medications. This is a so-called signal check, i.e. a gross assessment of the patient's medication with respect to indications, contraindications, dosages and chosen route of administration. It reveals any duplication of medication 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 a clinical pharmacist is (2) everyday work in the assigned clinical department and close cooperation with attending 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 or 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 drugs and LASA (look alike-sound alike) drugs and is involved in preparing so-called proactive procedures and storage systems to minimise the number of errors in handling these drugs and the impact such errors might have on patients. The Department of Clinical Pharmacy is the creator of the (5) generic positive sheet for the inpatient unit of Na Homolce Hospital.

Since 2012 the Department of Clinical Pharmacy has been involved in the national (6) Senior project implemented by Ústav lékového průvodce, z. ú. (Institute for Medical Drug Guidance). 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 Department of Clinical Pharmacy 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 the operational processes related to the activities of the Department of Clinical Pharmacy



### Work records and activities of the Department

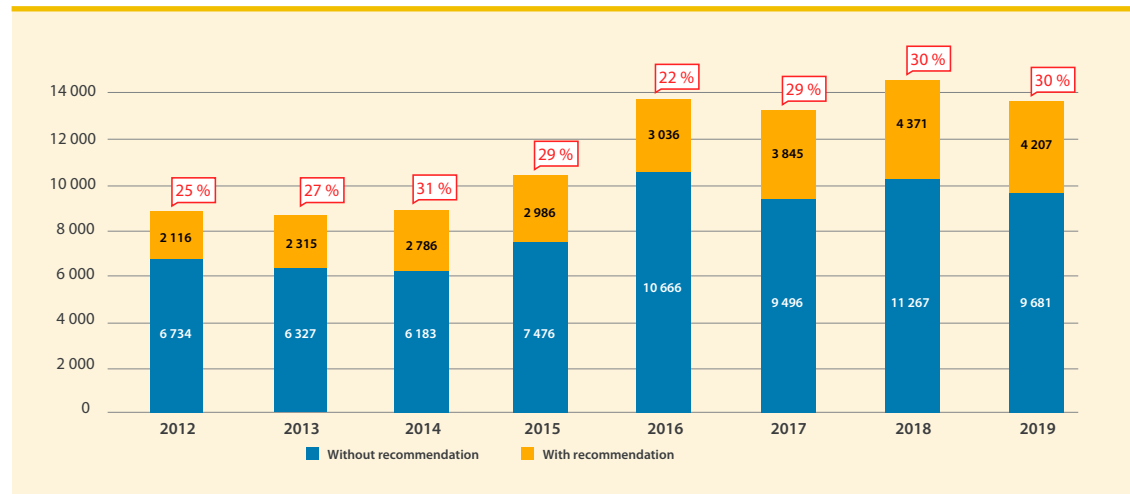
The Department provides care to all patients admitted in the hospital. The admission to our hospital represents the first screening point and separates young patients without medication who undergo a short-term, mostly ½-1 day hospital stay, and those who are treated in the Center for Sleep Disorders,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

the clinical pharmacist, as 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.

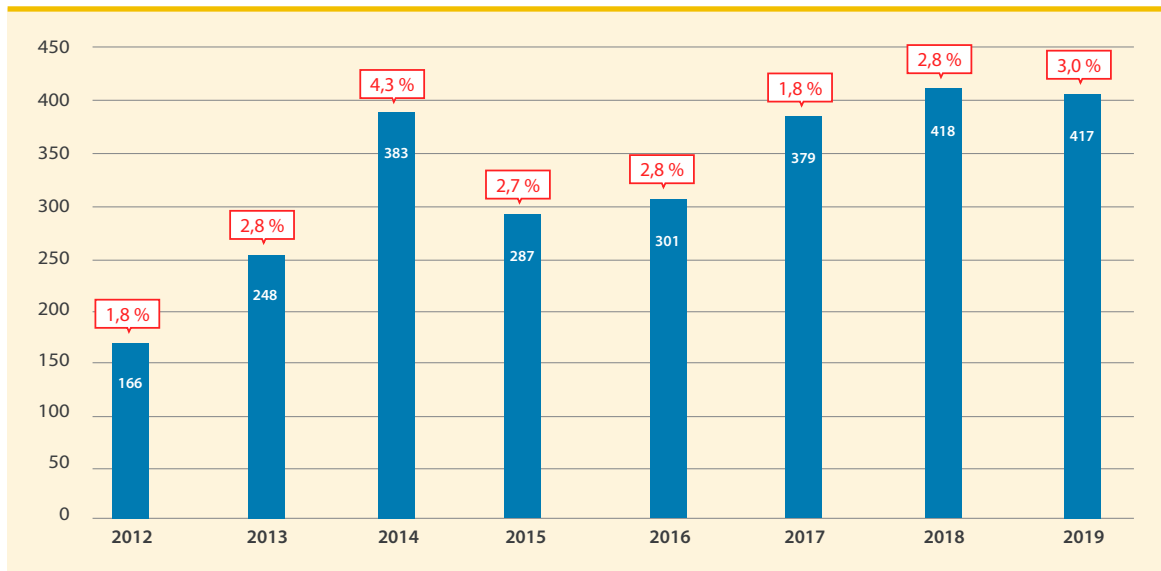
**Numbers of inpatients revised by the clinical pharmacist and consultations requested by an outpatient pharmacist in 2019**

Number of revised inpatients	13,888
Number of inpatients referred to by the Department of Clinical Pharmacy	4,207 (30.3 %)
Number of inpatients with severe adverse effects	417 (3 %)

**Year-on-year comparison of the number of reviewed medications in Na Homolce Hospital in 2012-2019**



Year-on-year detection (2012-2019) of adverse effects expressed as a percentage of the total number of reviewed medications (n=13,888)



### Accreditation and specialist activities

- Status of an accredited facility of the Ministry of Health of the Czech Republic in the field of clinical pharmacy, membership of the Accreditation Commission of the Ministry of Health of the Czech Republic in the field of clinical pharmacy
- Membership of the Board of the Clinical Pharmacy Section of the Czech Pharmaceutical Society of J. E. Purkyně
- Membership of the main Board of the Czech Pharmaceutical Society of the Czech Medical Association of J. E. Purkyně
- 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 Guide.
- Professional guarantor of the national "Senior" pilot project implemented by the Institute for Medical Drug Guide.

- Close cooperation with the State Health Institute (hospital antibiotic program and infection prevention and control)
- Membership of the Subcommittee on Antibiotic Policy of the Czech Medical Association of JEP
- Publishing and lecturing in national and transnational professional activities
- Implementation of two grant projects

### Staff data

Number of clinical pharmacists
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6.0 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 last time. 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 UNIT

## Center for Allergy and Clinical Immunology

Senior Physician: Assoc. Prof. Petr Čáp, MD, Ph.D.

### Activities of the Department

- The Center provides therapeutic and preventive specialised outpatient care to adult and pediatric patients with allergic diseases, immunity disorders and recurrent respiratory infections.
- In 2019, the Center for Allergy and Clinical Immunology performed comprehensive diagnostic and treatment procedures, including preventive and consulting care, to both child and adult patients from Na Homolce Hospital with allergies, asthma and other immunopathological conditions (immunodeficiency and autoimmune conditions).

### Operational data

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

**Number of physicians:** 4 (3.0 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	5,066
Number of interventions	8,636
Number of skin tests	27,408
Number of spirometries	6,791
Number of bronchomotor tests	1,246
Number of rhinomanometries	504
Number of allergen-containing vaccine administrations (treatment initiation)	342

### Educational and other specialized activities

- **Postgraduate training courses of the Center for Allergy and Clinical Immunology** provided to physicians and nurses in the field of allergy and clinical immunology for which the Department has received an updated and valid official accreditation by the Czech Ministry of Health
- **Undergraduate courses** provided to students of the 1st and 2nd School of Medicine, Charles University, in cooperation with the Institute of Immunology at the Motol Teaching Hospital
- **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 March 2019
- **Membership of the editorial board of the newspaper *Zdravotnické noviny***
- **PR and educational activities** - radio and television program, newspaper and journal articles
- **Membership of professional associations:** Czech Society for Allergy and Clinical Immunology of J. E. Purkyně (Assoc. Čáp is also a member of the committee of the professional society), Czech Pneumology and Phthysiology Society J. E. Purkyně (Assoc. Čáp), Czech Society of Internal Medicine of J. E. Purkyně (Assoc. Čáp), European Academy of Allergy and Clinical Immunology (Assoc. Čáp, Pončáková, MD, Herknerová, MD), European Respiratory Society (Assoc. Čáp); active participation in workshops, conferences and foreign congresses in the field of allergy and clinical immunology



## Department of Pediatric and Adolescent Medicine

Senior Physician: Tibor Savel, MD

### Activities of the Department

- Therapeutic and preventive care provided to children and adolescents up to 19 years
- Professional care in the field of pediatric neurology, endocrinology, psychology, orthopedics, pneumology, nephrology and speech therapy for children registered at Na Homolce Hospital
- 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

### Operational data

- Outpatient unit with 2 offices and 1 room for laboratory sample collection and also for emergency reanimation and possible isolation of infectious patients
- 5 pediatricians (1 full-time pediatrician, 4 part-time pediatricians or pediatricians with work performance agreement)
- 1 non-medical university graduate with 0,8 FTE (clinical speech therapy)
- 6 consulting specialists
- 5 pediatric nurses

### Changes in 2019

In 2019, the outpatient unit of a pediatrician and adolescent general practitioner has been cancelled (Dodovová, MD), Frühauf, MD, has discontinued his consulting activities in the field of gastroenterology, 2 pediatricians and 2 nurses retired, 1 nurse terminated her employment, Michalová, MD, started working with work performance agreement.

### Development perspective for 2020

Economic activity will be carried out within the hospital flat rate and payment per capita for specialization 002. From January 1, 2020, the institutional emergency service and the consulting service in pediatrics will be cancelled. Gradually, a generational exchange of medical staff occurs and working hours are adapted so that physicians and nursing staff work full time.

## 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, H Plus 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 gonorrhoea, 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 dermatology 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.

### Operational data

The Department has 1 senior physician (1.0 FTE) and 1 nurse (1.0 FTE).

### Development perspectives for 2020

The Department staff are involved in postgraduate training courses and regularly read professional journals. The task of the Department for 2020 is to maintain the quality of the provided therapeutic and preventive care, strengthen epicutaneous testing and increase the range of aesthetic dermatology interventions.

## Department of Ophthalmology

Senior Physician: Petr Novák, MD

### Activities of the Department

- Outpatient therapeutic and preventive ophthalmological care of patients of H Plus 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

### 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 senior physician and independent physicians work at the Department in only three surgeries (since November 19, one surgery has been transferred to the ENT Department).

### Procedures

Number of outpatient interventions	14,420
Number of treated patients in individual outpatient units	5,595
Total number of interventions	1,327
Number of cataract surgeries	1,268
Number of corneal transplantations	24
Number of surgical corrections of astigmatism	35

## Staff data

Number of physicians	5 (-1)
Number of physician FTEs	3.0 (-1,3)
Number of general nursing staff	7 (-1)
Number of general nursing staff (FTE)	5.0 (-1,0)
Number of auxiliary medical staff	1
Number of auxiliary medical staff (FTE)	1,0
Number of technical staff	1
Number of technical staff (FTE)	1,0
Total number of employees	12 (-2)
Total number of FTEs	10.0 (-2,3)

## Changes in 2019

- We managed to maintain the trend of long-term stabilization of the number of cataract surgeries and the number of transplants, despite the loss of one surgery and one physician position.
- Commercial refractive surgeries - lens extraction and implantation of monofocal or multifocal implants - continue to decrease unequivocally. 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.
- The capacity of the Department of Ophthalmology was reduced by one surgery, which was transferred to the ENT Department, and the number of physicians and nurses was reduced by one FTE.
- At the end of the year, the WhiteStaar Signature PRO phacoemulsification system was purchased as part of the investment. This device replaced the old one in the operating room. This is a device that can be used mainly in cataract surgery.

## 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 2019, the physicians participated in post-graduate 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 specialised ophthalmological workshops.

## Development perspective for 2020

- Specialists will be provided information on treatment possibilities in the Department of Ophthalmology, either covered by health insurance companies or provided in the form of commercial care.
- We need to cope with competitive conditions in the medical market within so-called economically more demanding options of healthcare.
- We will raise awareness about procedures performed in the Department of Ophthalmology and strengthen its position among other ophthalmology facilities.
- Further extension of the range and increase of the overall number of commercial intraocular interventions is planned.
- The Department of Ophthalmology has so far complied with the highest standards of surgical treatment of the anterior eye segment; however, it is imperative that medical equipment be gradually replaced.
- Continued cooperation with clinical ophthalmological facilities in Prague will be maintained.
- We will participate in workshops under the auspices of the Department of Ophthalmology, workshops organised by the Association of Nurses, the Lion's Club Educational Center in the Czech Republic and the Czech Society of Refractive and Cataract Surgery.
- Work will also take place on the replacement of existing, obsolete technical equipment.

### Department of Psychiatry

Senior Physician: Jaroslava Skopová, MD

#### Activities of the Department

The Department provides diagnostic, therapeutic and preventive psychiatric care to the patients of the polyclinic, patients of the department for foreign nationals, patients using other hospital programs, and consulting services in the hospital. 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 procedures with such patients.

#### Operational data

- 1 outpatient unit
- 1 physician FTE, 2 physicians with 0.6 and 0.4 FTEs
- 1 nurse (1.0 FTE)
- Total number of examinations - 2,381, of which 142 were new patients for whom initial examinations were performed, telephonic consulting provided to 330 patients
- Number of consultations for the hospital 70

#### Evaluation of clinical activities

Given the limited capacity represented only by one psychiatric position (1 FTE), the extent of 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 physicians cooperate with other inpatient 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. In some cases, the indicated patients are referred to the psychotherapeutic care.

## Membership of professional associations and educational activities

The physicians are members of the Psychiatric Society of J. E. Purkyně, the Czech Society of Neuropsychopharmacology and the Society of Biological Psychiatry. They are also members of the specialization committee of the Scientific Council of the Czech Medical Chamber for psychiatry. Physician with 0.4 FTE, Assoc. Zvěřová, MD, Ph.D., completed her habilitation procedure, works at the Psychiatric Clinic of the 1st School of Medicine, Charles University and the General University Hospital, where she is engaged in pedagogical and scientific work, is a co-researcher of a number of grants, and actively participates in domestic and foreign conferences. In addition, she has passed the postgraduate examinations in child and adolescent psychiatry, is a member of the Section of Child and Adolescent Psychiatry and the chairwoman of the Section of Gerontopsychiatric Czech Psychiatric Society.

## Development perspectives for 2019

Na Homolce Hospital is a highly specialised 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 conditions, i.e. with only one physician FTE. There is no room for scientific work or teaching, given the staffing and the significant number of patients. Therefore, the aim is to maintain the current high quality of care provided and economic results, while the demands for psychiatric services and increase in the number of patients generally increase.

## Department of Clinical Psychology

Head of Department: Assoc. Prof. Lenka Krámská, Ph.D.

### 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. They also provide consulting services to other departments of Na Homolce hospital. Mgr. L. Chválová, provides psychodiagnostic and psychotherapeutic care for outpatient children at the children's department in the office of consultants.

Specialised psychological care includes preoperative psychological preparation before complicated procedures, 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 epilepsy surgery, neurostimulator implants etc., for which special psychological or neuropsychological assessment is required by health insurance companies.

### 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 before and after interventions, etc.)
- **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.)
- **Internal medicine program** - Specialized psychodiagnostic and psychotherapeutic care in the field of obesitology, diabetology, endocrinology, oncology, pneumology and gastroenterology; consultancy, psychosomatic consultations
- **Crisis intervention** in acute responses to unfavourable diagnosis, psychological preparation for demanding procedures, assistance in coping with psychological impacts of diseases (Leksell Gamma Knife, oncology, etc.)



- **Pain management consulting center** – Psychological examination 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, often required by the Na Homolce Hospital personnel
- Psychological examination of applicants for a firearms license

### 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 paradigm with a focus on higher mental functions (memory, speech, etc.) by means of functional MRI
- 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

## Operational data

### Number of Psychologists

With postgraduate certificate	3
Without postgraduate certificate	2

### Number of psychological interventions performed in inpatients

Specific psychological intervention (30 min.)	701
Targeted psychological assessment (60 min.)	562
Follow-up psychological assessment (30 min.)	90
Psychodiagnostics with a complicated psychotherapeutic intervention (90 min.)	16
Crisis intervention (30 min.)	16

### Number of outpatient interventions

Individual systemic psychotherapy (30 min.)	203
Comprehensive pediatric psychological assessment (60 min.)	53
Targeted pediatric psychological assessment (60 min.)	95
Comprehensive psychological assessment (60 min.)	6
Follow-up pediatric psychological assessment	4
Targeted psychological assessment (60 min.)	1,198
Follow-up psychological assessment (30 min.)	340
Specific psychological intervention (30 min.)	186
Psychodiagnostics with a complicated psychotherapeutic intervention (90 min.)	107
Crisis intervention (30 min.)	1,396
Emergency psychotherapy (60 min.)	1

Number of points achieved

Total	1,998,918
of which outpatient	1,496,042 (of which VZP 840,025)

However, behind these figures, one must see specific human beings and fates that would, without the psychological intervention, tolerate hospitalization, surgical procedures and other major life events with significantly more difficulties.

Educational activities and membership of professional associations

- There are specialized study visits as part of the undergraduate study programs organized in the Department (for the Faculty of Arts and Teaching School, Charles University - 15 students), supervision of diploma and master's degree theses, as well as postgraduate study (pre-certification study visits in clinical psychology - a total of 3 pre-certification visiting students, 2 Ph.D. students). In 2019, training of psychologists in undergraduate preparation was carried out in the Department. 2 internal trainees and 5 external trainees from other medical facilities (hospital in Kladno and the Malvazinky Rehabilitation Clinic and private clinical psychology clinics) are undergo pre-certification training at the Department.
- Assoc. PhDr. L. Krámská, Ph.D., develops the activities of the Czech Neuropsychological Society which she founded with her colleagues in 2011 and obtained accreditation by the Czech Ministry of Health for a certified course in clinical neuropsychology. She is a member of the subject-area board 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 Liaison Committee (ILC) in the International Neuropsychological Society (INS) and the Federation of European Societies in Neuropsychology Committee for the Czech Republic. 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.
- PhDr. M. Kořán, Ph.D., is a long-term member of the committee of the Czech Union of Psychological Societies. M. Kořán, 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. In the autumn of 2019 (September, November), he repeatedly participated in 2-week healing stays for oncology patients organized by the self-help organization Arcus - onkology center - as a psychologist.
- PhDr. Lenka Chvátlová joined the Department of Clinical Psychology in September 2017 and actively participated in its activities. She lectures at specialist workshops and conferences.

- PhDr. Lucia Hrešková, Ph.D., completed her doctoral studies in clinical psychology at the Faculty of Arts, Charles University in Prague in 2019. She is a co-researcher of the project „Diagnosis and treatment of psychogenic non-epileptic seizures (PNES)“, supported by an internal grant from Na Homolce Hospital (led by the main researcher Lenka Krámská). In the period from July 15 to August 5, 2019, she completed an internship at the Northeast Regional Epilepsy Group abroad in New York, USA, under the guidance of Lorna Myers, Ph.D. At the same time, she and Assoc. Krámská established active research cooperation with this important workplace. They have prepared a joint symposium within The 32nd International Congress of Psychology, which will take place from July 19 to 24, 2020 in Prague. They also published an article in the impact magazine „Seizure“. Lucia Hrešková is a participant in training in cognitive behavioral therapy and continues her specialized education in clinical psychology at the Institute of Postgraduate Education in Health Care. She actively participated in 2 international conferences.
- Mgr. Zuzana Dvořáková became involved in the care of outpatients, especially internal medicine outpatient units, and continued under the guidance of Assoc. Krámské in doctoral studies (clinical psychology at the Faculty of Arts, Charles University, 5th year), within the study she opposed 2 bachelor's theses, submitted a grant application to the Grant Agency of Charles University, is a participant in integration training in psychotherapy and continues in specialized education in clinical psychology at the Institute of Postgraduate Studies in Health Care.
- In 2019, employees of the Department presented a total of 5 posters at international congresses, gave 8 lectures at national conferences, as well as 7 presentations at specialist workshops of the Department of Clinical Psychology. In addition, they published several articles in peer-reviewed journals with an impact factor.

### Development perspectives for 2020

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, it 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 organise study visits within postgraduate education in clinical psychology. We will also continue to implement a specialized educational program in clinical psychology in cooperation with the Accreditation Commission of the Ministry of Health in the further education of postgraduate students. Assoc. Krámská will participate in the preparation of specialized education of oncology nurses organized by the Ministry of Health of the Czech Republic and the development of the palliative program of Na Homolce Hospital. The Department will continue to work on the standardization of neuropsychological methods and procedures for the Na Homolce Hospital neuroprogram (internal grant Diagnostics and treatment of patients with PNES diagnosis - psychogenic non-epileptic seizures) and develop psychotherapeutic care and cognitive rehabilitation in patients with neurocognitive deficits, including collaboration on the development of a psychoeducational handbook for PNES patients. We will continue to develop international cooperation and activities with professional associations and institutions in clinical psychology and neuropsychology (Northeast Regional Epilepsy Group, New York - L. Myers, MD, Division of Neuropsychology, University of Miami, Miller School of Medicine - Prof. B. E. Levin).

## Dental outpatient unit

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

### Operational data

- The above given range of outpatient dental care was provided by one full-time physician and one physician with a contract for work and FTE 0.2 in 2019. The care was provided to outpatients and inpatients of polyclinics, foreign nationals, contractual partners of Na Homolce Hospital, and hospitalised patients.
- In 2019, the Department had two dental offices. One dental office is used by the dentist and a nurse, the other by a physician with reduced working hours without a nurse.
- In 2019, a total of 5,576 patients were examined and treated.

### Evaluation of clinical activities

The number of examined and treated patients was similar to 2018. However, the number of interventions is still rather high which was achieved particularly due to highly efficient organization of work, immediate phone contact with patients and filling of time slots vacated by absent or late patients and, partially, extension of working hours, i.e. by treating painful conditions before the official working hours.

### Changes and events in 2019

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 and inlay bridge. The number of patients treated with conditionally removable replacements and all-ceramic restorations increased as well. The use of so-called locators has been extended to increase the retention of lower total replacements. Mr. Kolčava, MD, has received the extension of the so-called practical medicine certificate. From January 1, 2019, we completely stopped using undosed amalgam.

### Development perspectives for 2020

A priority in 2020 will be to increase the part-time FTE of the physician to the full-time and accept a dental hygienist. The Department will continue to cooperate with the Department of Dental Surgery in the application of 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 use of the Silensor anti-snoring system will be increased in selected patients, as well as dental guards to prevent bruxism. 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, the production of removable replacements made of flexible resin will be increased. The request for a tender for the purchase of a dental set and a tender for a portable turbine will be renewed. 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

In 2019, the Department continued to provide services both to hospital and to other healthcare facilities, including 24-hour support. 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 center. The decision made on this or an alternative treatment - in particular, an open neurosurgical procedure - is made during common workshops organised 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.



### Non-vascular methods

The area of non-vascular methods was further dominated by CT-guided nerve root injections and vertebroplasty. In this segment of care, our hospital has been traditionally one of the most active centers in our country. In 2018, a unique hybrid imaging device was installed in the hospital, combining CT and angiography, both of which are capable of working both independently and mutually connected. The device is unique not only in the Czech Republic, but also from the European perspective. Intervention performance on this device continued to be developed in 2019.

In 2019, epiduroscopies continued to be performed.

Since December 2010, two-source Somatom Flash CT equipment has been used for diagnostics, which led to a significant advancement in CT diagnostics. 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.

A significant number of cardiac CT examinations, including CT scans of heart, were performed at the Department in the past year. 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 for 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 perioperative 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. On MR devices in the building K, the Department continues to routinely use 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.

In 2019, 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. Research of brain tumors and quantification of the MR signal continued with the question of prognosis prediction and more accurate diagnostics.

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.

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 Clarity system with direct digitization.

Patients with unclear mammography and ultrasound findings are referred for an MRI breast examination in indicated cases, 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. In 2019, the use of the hospital's PACS system was streamlined, including a better connection with the PET Center. Development in this direction will continue in the coming years.

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 the Internet.

## Operational data

### Technical equipment

- Angiography unit: 1x Artis Q biplane, 1x Siemens Axiom Artis biplane
- CT unit: 1x Siemens Somatom Flash (2x128), 1x Siemens Somatom Definition AS Plus
- 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: 3x 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, orthopantomograph, PACS workstations, scanners, printers, data archives

### Basic staff data

Number of physicians	28
Number of radiodiagnostic laboratory technicians	31
Number of general nursing staff	9
Number of administrative staff	10
Number of auxiliary medical staff	2

### Specialized intervention and treatment procedures

PTA (with or without stent implantation)	563 PTA, 170 stents
Endovascular treatment of cerebral aneurysms (coils, stents)	36
Recanalization of cerebral arteries in acute stroke	110
PTA/stent of extracranial arteries	39
PTA/stent of intracranial arteries	25
Embolization in neurological area (cerebral, spinal AVM)	7

## SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

Tumor embolization	14
CT guided intervention in total	3,224
Of which targeted CT guided nerve root and facet injections	2,813
CT guided vertebroplasty + kyfoplasty	222
CT guided radiofrequency ablation	15
CT guided biopsies and drainages	174

### Overview of selected radiodiagnostic examinations

Computed tomography	13,859
Magnetic resonance imaging	14,555
Angiography	2,537
Ultrasound examinations	14,258
Mammography in total	13,367
Of which screening	11,497
Ultrasound examination within mamma diagnostics	2,911
Breast node biopsy	160
Fluorography, fluoroscopy + dental X-ray	37,087
Total number of radiodiagnostic examinations	101,622

### Plans for 2020

- The oldest MR device Symphony will be replaced by a Three-Tesla device, which will enable further development of modern MRI.
- 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. Furthermore, research activities supported by grant projects will continue, namely accumulation of gadolinium and diffusion in patients with Optune treatment.

- 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.
- The department will actively participate in the planning and implementation of the new NIS and PACS systems for the hospital and interconnection with other workplaces.
- The Department will actively support the hospital's cyber security.

## Department of Nuclear Medicine - PET Center

Head of Department: Assoc. Prof. Otakar Bělohávek, MD, CSc.

### Activities of the Department

- PET/CT diagnostics
- scintigraphic imaging including SPECT

### Organizational units of the Department

- Nuclear Medicine outpatient unit
- Radiopharmaceutical laboratory

### Basic data

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

Staff (as of December 31)

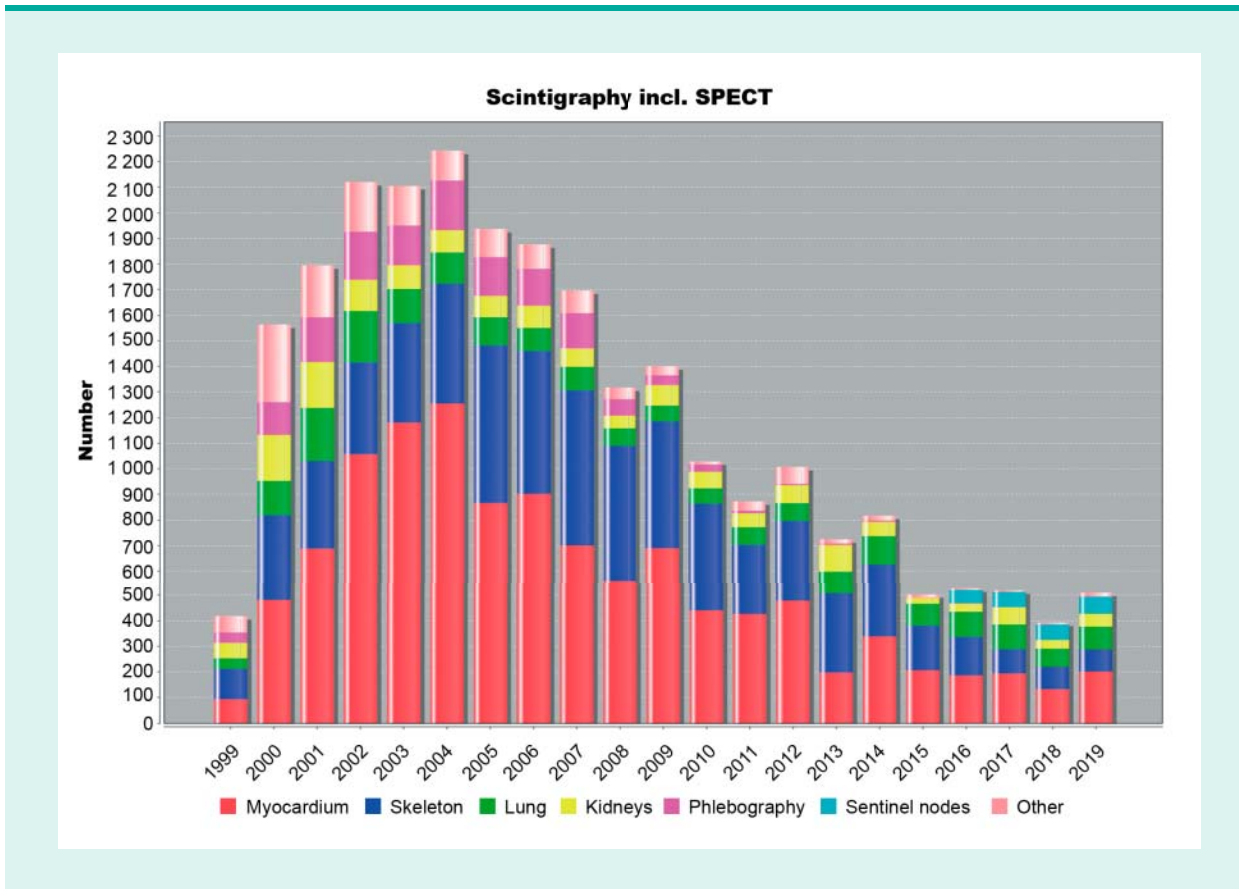
Position	Number of persons	Number of FTEs
Assistant (technical-administrative employ-ee)	1	1.0
Pharmaceutical assistant	1	overtime work of an employee of the Department of Clinical Biochemistry, Hematology and Immunology
Physician	10	7.8
Specialist laboratory technician, preparation of medicines	1	overtime work of an employee of the Department of Clinical Biochemistry, Hematology and Immunology
Radiological assistant	8	8.0
Paramedical staff	1	1.0
General nursing staff	4	4.0

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

Performance overview

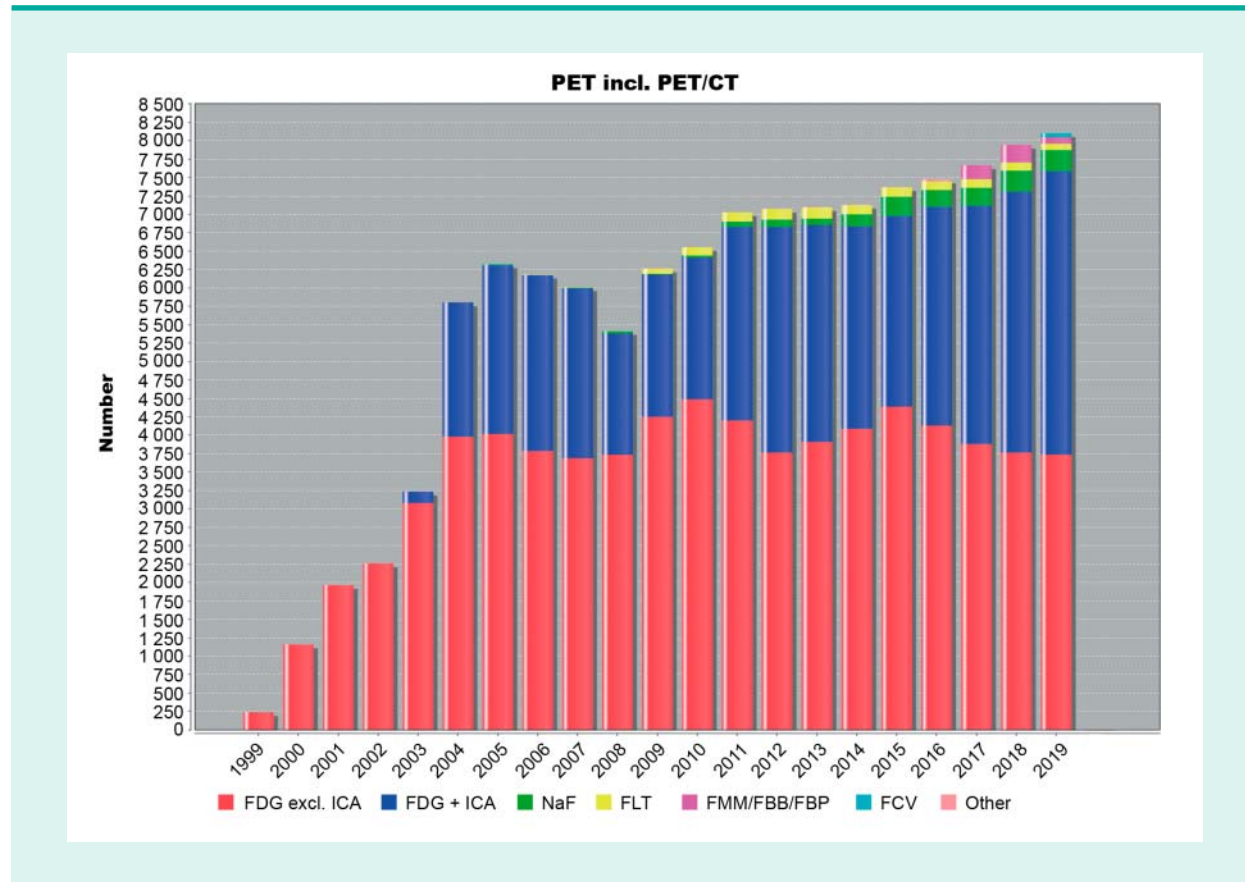
Scintigraphy

Number of examinations: 510 (increase by 29.8% compared to the previous year). All examinations are performed using a dual-detector camera Siemens E. CAM.



## Positron emission tomography

Number of examinations: 8,100 (an increase of 2.0% as compared to the preceding year). All examinations were performed using two hybrid Siemens Biograph PET/CT scanners.





## Activity evaluation

- In 2019, the work productivity in the field of PET diagnostics was again quite high compared to other domestic and foreign centers. Thanks to the trouble-free operation of both PET/CT scanners, uninterrupted deliveries of radiopharmaceuticals, full staffing and financing of part of the examinations outside of the limiting health insurance system, the historical maximum number of examinations from the previous year was slightly overcome and the number of examinations was 8,100. The spectrum of examinations was expanded to include the diagnosis of prostate cancer recurrence with the help of the newly introduced radiopharmaceutical fluciclovine.
- In conventional scintigraphic diagnostics, interest in the examination of myocardial perfusion has revived, so that after last year's decline caused by a long-term failure of the ergometer in cardiology, the number of examinations returned to the level of the previous several years. In view of the renewed interest of neurologists in the ictal examination of cerebral perfusion, this SPECT examination was reintroduced.
- Throughout 2019, the Department worked without an immunoassay laboratory, which became part of the Department of Clinical Biochemistry, Hematology and Immunology since January 1, 2019.
- The personnel situation at the workplace was stabilized; the nurse's retirement was offset by the appointment of a radiological assistant.
- The work of the workplace was complicated by the termination of the contract with the supplier of the radiological information system, which was operatively replaced by the previously prepared QuaMan® solution, without any serious operational problems. For the same reason, the PACS temporary image archive and the electronic system for publishing the results were deployed by the IT department. Both of these systems initially faced problems, which were overcome only at the cost of a considerable effort of the Department. Elimination of some of them can only be expected with the installation of the new hospital-wide PACS and NIS.
- Last year, six framework contracts for the supply of radiopharmaceuticals and radionuclide sources were concluded. The share of competed items was 99.26% of the total financial volume of direct purchases at the Department of Nuclear Medicine.
- The Department as a whole has a certified system of quality management pursuant to ISO 9001 and a recertification audit was successfully completed in the middle of the year. The Department, as part of the hospital, followed international JCI accreditation standards.
- At the turn of August and September, the workplace commemorated 20 years since its establishment and organized an open day on that occasion and issued Almanac of PET/CT examinations, which was distributed in 1,500 copies to health professionals at indicating workplaces.

## Educational and other specialized activities

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

### Development perspectives for 2020

- 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; however, it is assumed that their number will be limited, as the recruitment of patients in a number of studies has already been closed. 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 in some parts of the year due to the gradual extension of indications for examinations.
- A new radiopharmaceutical (FMISO) is to be introduced in imaging tumor hypoxia.
- A tender for the supply of FLT, NaF and FCh radiopharmaceuticals is planned, as well as the preparation of documents for the renewal of the PET/CT scanner and the reconstruction of the building.
- QuaMan® system is to be connected to the new NIS and a new PACS is to be connected.
- The distribution of findings by data boxes is to be introduced.
- The number of employees is to grow by one technical-economic worker to strengthen the long-term overburdened reception/office and increase the overall stability of the workplace.
- A supervisory audit of the Department in accordance with ISO 9001:2015 is planned for the middle of the year.

## Department of Clinical Biochemistry, Haematology and Immunology

Head of Department: Assoc. Prof. Miroslav Průcha, MD, Ph.D.

(Head of Department since April 16, 2019, Head of Department until April 15, 2019 Luděk Táborský, MD)

### Sections of the Department

Biochemistry  
Immunoassay laboratory  
Hematology  
Blood bank  
Immunology  
Laboratory of molecular diagnostics

### Activities of the Department

- The Department performs routine and specialized examinations of laboratory parameters within Na Homolce Hospital and for contracted medical facilities in: clinical biochemistry and immunoassay, clinical hematology and blood transfusion service, clinical immunology and allergy, molecular genetic diagnostics and clinical pharmacology (including pharmacokinetic interpretation of measured drug concentrations). Collection of material from contracted medical facilities is secured.
- In critically ill patients, examination of selected parameters is performed directly at the bedside (POCT - point of care testing).
- The Immunology Laboratory performs special examinations with critical patients monitoring.
- The blood bank ensures the supply of blood and blood derivatives to hospital clinical departments.
- The Department participates with great success in the control cycles of the External quality assessment program.
- The laboratory obtained accreditation by Český institut pro akreditaci, o. p. s., in accordance with ČSN EN ISO 15189:2013.
- Physicians and university staff perform consulting and advisory services within their relevant fields.
- The Department provides outpatient services for lipid metabolism disorders and hematology outpatient units. Physicians specialized in immunology and allergy worked in the outpatient units of the Center for Allergy and Clinical Immunology of Na Homolce Hospital (from March 1, 2020, this outpatient unit for clinical immunology and allergy will be affiliated to the outpatient units of the Department of Clinical Biochemistry, Hematology and Immunology).

## Staff (dated 31/12/2019)

(including partial FTEs and contracts for work)

Number of physicians	10
Number of non-physician graduate staff	12
Number of medical staff	
laboratory technicians	36
nursing staff	7
paramedical staff	6
Number of other staff	5
<b>Total number of employees</b>	<b>78</b>

## Economic results for 2019

Similarly to the 2018, the year 2019 was significantly marked by the change in the accounting of medical service for specialists 816 (molecular genetics). This fact was reflected in a drop in the points charged and a change in the profitability of the Department. The total number of points increased after the connection of the immunoassay laboratory. The Department will attempt to reverse this trend in 2020 by saving costs especially in the purchase of diagnostic equipment.

	Number of points in 2017	Number of points in 2018	Number of points in 2019
Outpatient department	1,289,192	1,245,430	1,233,129
Biochemistry	65,857,013	68,306,142	70,008,298
Hematology	20,457,921	20,250,766	21,377,402
Blood bank	4,984,251	4,998,718	6,106,026
Immunology	39,902,995	36,093,256	36,664,333

Immunoassay laboratory	-	-	31,568,064
Laboratory of molecular diagnostics	34,105,350	12,293,450	10,916,981
Total	166,596,722	143,187,762	177,874,233

## Changes in 2019

- Based on the decision of the hospital management, the **laboratories were consolidated** and, as of 01/01/2019, an immunoassay laboratory was added to the Department of Clinical Biochemistry, Hematology and Immunology, which was a part of the Department of Nuclear Medicine until 2018. Since January 2019, the processes of implementation and unification of documentation have been under way. New organizational and operational rules, a new quality manual, a laboratory manual and other documents were issued. An extraordinary audit of the Czech Institute for Accreditation focused on this consolidation took place on January 9, 2019, after which the laboratory was merged with the Department of Clinical Biochemistry, Hematology and Immunology, and the immunoassay laboratory accreditation was extended until the re-accreditation audit of the entire Department in May 2019.
- A tender was announced for **new laboratory information system and new biochemical analyzers**. Stapro won the tender for the laboratory information system (LIS) with the Fons Openlims software. The implementation of the new LIS was initiated in July 2019 and completed with the signing of the acceptance protocol on December 12, 2019. For external physicians who are equipped with the appropriate technology, the secure Internet application Weblims for electronic transmission of results is gradually being launched. Siemens (Biovendor distributor) won the tender for biochemical analyzers with the Atellica solution analytical line. Due to the impossibility of connecting the new analytical line to the original laboratory information system, it will be put into operation in 2020.
- In 2019, **laboratories participated in the external quality assessment program** organized by SEKK and Instand (external quality assessment covers the full range of methods entered for accreditation):
  - In the first half of 2019, the laboratory participated in the analysis of a total of 538 control samples with an overall success rate of 97.77%.
  - In the second half of 2019, the laboratory participated in the analysis of a total of 449 control samples with an overall success rate of 97.55%.
  - Unsuccessful results were addressed.
- **Accreditation by the Czech Institute for Accreditation:**
  - In the period from January to December 2019, 13 internal audits were performed at the Department. 4 non-conformity cards were issued in the performed audits. Nonconformities have been resolved. Furthermore, recommendations were defined, most were accepted and implemented in full or in part.
  - On January 9, 2019, an extraordinary audit was conducted aimed at accepting the inclusion of an immunoassay laboratory in the Department of Clinical Biochemistry, Hematology and Immunology, concluding that "the subject meets the assessed criteria".

- From April 25 to 26, on May 6, and from May 14 to 15, 2019, a re-accreditation audit took place in all sections of the Department. During the assessment, 1 nonconformity was identified and rectified on site. After eliminating the nonconformity, it was stated that the established laboratory management system is set up and maintained in accordance with the requirements of ČSN EN ISO 15189:2013.
- Obtained accreditation is valid until May 30, 2024.
- **Personnel changes in the management of the Department:**
  - Assoc. Miroslav Průcha, MD, Ph.D., replaced Luděk Táborský, MD (April 16, 2019).
  - Jana Dvořáková, MD, replaced the Deputy Head of Department Václav Maňoška, MD (July 1, 2019).
  - Mgr. L. Macháčková replaced the senior laboratory technician Mgr. Ludmila Dvořáková (June 1, 2019).
- **Biochemistry:**
  - The MiniVidas Blue analyzer was returned in order to determine the levels of PCT. The method was converted to a Unicel Dxl 600.
  - On December 17, 2019, the Diuri FUS 200 urine analyzer was replaced by a Diuri FUS 3,000 and the Aution Eleven semi-automatic urine analyzer was replaced by a Diuri H-500.
  - A method for the determination of interleukin IL-6 on a Unicel Dxl 600 analyzer was introduced.
  - The number of ABR analyzers in inpatient wards was reduced - in October 2019, 5 borrowed Rapid point 500 analyzers were returned.
  - On December 15, 2019, Bc. Petr Laš was appointed to the post of the section laboratory technician instead of Mgr. Libuše Macháčková.
- **Immunoassay laboratory:** The NSE method was transferred to the Architect Abbott analyzer.
- **Hematology:**
  - On February 6, 2018, the Sysmex XN3100 hematology line and the Sysmex XN550 analyzer were installed. Their use to perform accredited methods was approved by an extraordinary audit on January 9, 2019.
  - On January 15, 2020, Andrea Potměšilová replaced Mgr. Karolína Dvořáková as a section laboratory technician.
- **Immunology without changes.**
- **Blood bank:**
  - Change in viewing the results - the original OKO software was replaced by the Web-Lims software.
  - On October 1, 2019, Bc. Petra Dudová replaced Lenka Kleislová as a laboratory technician.
- **Laboratory of molecular diagnostics:**
  - 2 new thermocyclers were purchased from the grant.
  - New methods have been introduced, namely KIBRA, detection of Clostridium difficile tcdA and tcdB genes and detection of respiratory virus genetic material.

## Outlook for 2020

- An extraordinary supervisory event of the Czech Institute for Accreditation will take place after the implementation of the new laboratory information system Stapro Openlims.
- A new analytical line Atellica Solution (Siemens) will be put into operation at the statim laboratory (equipment validation, method verification, commissioning).
- An extraordinary audit of the Czech Institute for Accreditation will take place after the analytical line is put into routine operation.
- We will continue to fulfil research projects within research and science support at Na Homolce Hospital.
- We intend to expand the diagnostic spectrum of examinations with an emphasis on molecular genetics.

## Educational and other specialized activities

- **Nationwide training and reference activities:** The Department is the 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 analyzers; center for further training in the field of hereditary metabolic disorders and lipid metabolism disorders; Ph.D. training center; and it participates in the training provided at the Immunology Institute of the 2nd School of Medicine, Charles University.
- **Membership of the following professional associations:** The Czech Medical Association of J. E. Purkyně, Czech Society of Clinical Biochemistry, Czech Society of Hematology, Czech Society for Blood Transfusion Medicine, Czech Society for Thrombosis and Hemostasis, Czech Society for Atherosclerosis, Czech Society for Allergy and Clinical Immunology, Czech Immunological Society, Czech Pediatric Society, European Atherosclerosis Society, Immunocompromised Host Society, Society for Study of Inborn Errors of Metabolism, American Association of Clinical Chemistry, International Federation of Clinical Chemistry, International Society for Newborn Screening, European Society for Newborn Screening.
- **Membership of editorial boards of professional journals:** Klinická biochemie a metabolismus (Prof. Hyánek), Transfuze a hematologie dnes (Pagáčová, MD).
- **Professional papers in journals with IF have been published by:** Assoc. Miroslav Průcha, MD, Ph.D., and Václav Maťoška, MD.
- **Grants:** Assoc. Miroslav Průcha, MD, and Václav Maťoška, MD, are the researchers participating in the internal grants of Na Homolce Hospital in cooperation with other departments and in the grants of Thomayer Hospital and the Teaching Hospital in Motol.
- **Lectures:** Assoc. Miroslav Průcha, MD, and Lenka Sedláčková, MD, lectured at Czech and international congresses.

## Department of Clinical Microbiology and Antibiotic Center

Head of Department: Assoc. Prof. Miroslav Průcha, MD, Ph.D.

(since August 12, 2019, until August 5, 2019, Head of Department Václav Vaniš, MD)

### Clients

- Na Homolce Hospital
- External clients

Number of external healthcare facilities and surgeries

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Number of facilities	132	107	101	103	95	97	89	76	77	74	55

### Laboratory diagnostics

Requests for microbiology examinations for Na Homolce Hospital

Year	Bacteriology	Serology	Total
2009	58,770	10,884	69,654
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



## SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

2017	59,250	10,754	70,004
2018	59,358	13,031	72,389
2019	58,185	11,608	69,793

### Requests for Microbiology Examinations for External Clients

Year	Bacteriology	Serology	Total	Number of surgeries
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
2015	15,738	2,447	18,185	89
2016	15,509	2,391	17,900	76
2017	13,012	2,216	15,228	77
2018	11,631	1,964	13,595	74
2019	10,819	1,684	12,503	55

### Requests for microbiological tests - total

Year	Bacteriology	Serology	Total
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

## SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

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
2018	71,010	15,024	86,034
2019	69,382	13,292	82,674

### Antibiotic Center

Consultations provided to inpatients of Na Homolce Hospital

Year	Number of consultations	Number of patients consulted (total number)
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
2018	11,027	2,971
2019	11,038	3,146

## Public activities

- **Working group for antibiotic resistance monitoring:** The Department is part of a network of laboratories monitoring antibiotic resistance in the Czech Republic.
- **The National Reference Center for Infections Associated with Healthcare of the National Institute of Public Health:** The Department collaborates with the center.

## Comments

- **Laboratory diagnostics:** In 2019, there was a slight increase in laboratory microbiological requirements compared to the previous year. The number of cooperating healthcare facilities (surgeries) and the number of examinations performed for external clients slightly decreased.
- **Antibiotic Center:** The number of consultations provided and patients in 2019 slightly increased as compared to the previous year. No significant epidemiological changes in the resistance of infection originators were recorded. The exception is the occurrence of vancomycin-resistant enterococci, where there has been a sharp increase in the number of colonized patients compared to previous years. Most of these patients were imported from other health care facilities or from a community service center.
- **Infection prevention and control:** In 2018, the overall incidence of nosocomial bloodstream infections slightly decreased. Trends are regularly reported to the appropriate departments and our Department implements appropriate measures. The number of secondary nosocomial bloodstream infections relatively increased, especially in the segment of surgical infections. The number of patients colonized or infected by MRSA slightly decreased as compared to the previous year, while the number of MRSA transmissions during hospitalisation in Na Homolce Hospital is comparable to the previous year and generally low. The number of Clostridium difficile-induced infections decreased compared to last year.
- **Operational and economic parameters:** The operation and economic parameters of activities of the Department were stable and comparable with 2018.
- **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 organised by the National Reference Centre 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 organised 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 organised 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 Syrůček, MD

#### Activities of the Department

The Department carries out all bioptic and cytological diagnostics 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. In 2019, we temporarily performed an autopsy service for the hospitals in Kladno and Slaný. 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 self-employed physicians full-time and one physician with 0.5 FTE
- 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
- 1 quality manager in charge of the requirements of the Department in connection with JCI accreditation processes and ISO 15189

## 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 6 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	2018	2019
Number of examinations	19,546	21,831	22,670	21,643	20,817	22,525	20,970	21,329	21,153	21,815
Number of slides	49,290	58,429	61,631	65,890	63,972	65,489	61,401	64,155	62,658	62,244

### Cytological diagnostics

	2005	2009	2011	2012	2014	2015	2016	2017	2018	2019
Number of examinations	5,349	2,738	2,153	2,205	1,993	1,992	2,249	2,249	2,203	2,155
Number of slides	11,744	6,214	5,092	4,932	4,365	4,392	5,191	5,191	4,464	4,044
BAL (bronchoalveolar lavage)			187	162	121	107	114	114	150	200

There was a slight increase in the number of biopsy examinations in 2019, while the number of cytological examinations insignificantly decreased. In 2019, 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.

### Autopsy activities

	2005	2009	2011	2012	2014	2015	2016	2017	2018	2019
Number of deceased	286	270	226	216	225	196	233	226	239	240
Number of autopsies	248	154	136	122	123	122	136	121	122	121

The autopsy rate for 2019 amounts to 50%.

### Workshops

In 2018, the physicians of the Department attended 126 clinical pathological conferences, where 17 autopsy and 775 biopsy cases were discussed.

	2005	2009	2010	2012	2014	2015	2016	2017	2018	2019
Number of workshops	127	85	98	88	102	95	94	114	139	126
Number of autopsy cases	65	82	27	20	22	21	19	26	18	17
Number of biopsy cases	377	684	612	843	837	753	701	692	901	775

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 oncology workshops with the Department of General Surgery take place once a week. Regularly once a week, the staff participate in neuro-oncological workshops with physicians from neurosciences, oncologists from the Teaching Hospital in Motol and physicians from the Department of Radiodiagnostics, to discuss all biopsy cases from the preceding period. Workshops with other specializations are organized as needed, approximately twice a year, clinical pathological workshops together with the Department of Cardiac Surgery are organized once a month on a regular basis. These workshops are part of the further training program of clinical departments, aimed at increasing the quality required under the accreditation standards.

### Significant changes and events

- ČIA ISO accreditation: In May 2019, a Czech Accreditation Institute (ČIA) re-accreditation was successfully performed.
- SAK accreditation: The Department of Pathology as part of Na Homolce Hospital participated in successful accreditation by SAK accreditation in January 2020.
- 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.
- In 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 2020

- We will maintain and further improve the standard of bioptic diagnostics and clinical and pathological workshops.
- The range of immunohistochemical antibodies has been extended according to the needs of individual hospital departments. We perform most immunohistochemical staining on a semi-automated device - improving and accelerating the diagnosis of tumor and non-tumor lesions.

### Section for Nursing Care

In 2019, at Na Homolce Hospital, we continued to develop projects from 2018, which support personnel stability, lifelong education of non-medical technicians and develop social-health care and palliative care.

#### Cooperation with educational institutions

In order to strengthen the personnel stability, we deepened and newly established cooperation with universities and colleges offering courses in public health. We offer students of educational institutions professional internship in "general nurse" and "nurse practitioner" specializations. As part of professional internship, we continue to train mentors. These are existing employees - general nurses who complete a mentoring course and become mentors of clinical practice, i.e. heads of student professional internship. The aim of the project is to provide quality professional internship and gain new employees from among current nursing care students.

#### Open days, educational events for students and the public

During 2019, a total of 4 open days were organized for students in public health. Both students and the professional public welcome these events. Students perceive the hospital as an attractive employer, as a place they would like to return to in the future as employees. Staff from all specialist workplaces of the hospital cooperate on the organization of the open days.

The importance of health literacy in Europe and the world is growing along with promoting the so-called healthy society. Na Homolce Hospital has also been involved in educational projects for the public (so-called health days). In 2019, the following events took place: Hand Hygiene Day, Stop Pressure ulcers and Stroke Day, which was also successfully promoted at the Health Day event organized by the Ministry of Health of the Czech Republic.

#### Social-health care and palliative care project

In recent decades, medicine has developed significantly due to the implementation of new technologies in all medical disciplines, including intensive care, which not only allows for a positive effect on previously unsolvable conditions, but also brings new medical, social, ethical and economic problems. Na Homolce Hospital is a highly specialized center which aims to always preserve the life and health of the patient. In cases



where this goal cannot be met, we focus our efforts on palliative care. In December 2018, a palliative team was formed here, consisting of experts dedicated to the individual needs of the patient, namely an internal disease specialist, palliative care coordinator, social worker, chaplain, nutritional therapist, general nurse, psychologist and clinical pharmacist. We presented the development of the palliative team and the integration of social-palliative care into nursing care at a conference we organized in October 2019 for health professionals and health and social workers with the support of palliative care experts. The conference was well attended and was very successful.

### Electronic nursing documentation

We have been cooperating on the project of electronic nursing documentation since 2018 and in the course of 2019 with the IT department. The aim is to eliminate paper documentation, duplication and ensure safe management of uniform documentation. The project will certainly also contribute to making the work of health care professionals more attractive. We will also obtain data from the electronic nursing documentation that will help us to further improve the quality of nursing and medical care.

### Plans for 2020

The main goal of our hospital is to continue to stabilize non-medical personnel and promote staff training. Promoting education is important not only to maintain high standard of nursing and medical care, but also to maintain competitiveness of our hospital and obtain further accreditation - SAK. The year 2020 will also become the year of the final launch of electronic nursing documentation in Na Homolce Hospital. With our projects, we want to continue to promote awareness of responsibility for one's own health not only among the public, but also among hospital employees. We are another healthcare facility that joins to support the National Health Program project.

### 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. 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 commission for the assessment of the deployment of medical instrument funds from the Czech Ministry of Health and applications for grants. 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.

#### Prevention and Maintenance Section

It 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. It 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. It takes over the gained medical equipment and provides instruction to the personnel operating the medical equipment. The Department is managed by Mgr. Ondřej Zeman.

#### 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 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.

### Changes / new events in the previous year

In 2019, software for asset management was implemented, which was acquired in the previous year for the needs of the Department of Biomedical Engineering and the Operations Department. The Department of Biomedical Engineering was strongly involved in the preparation for the SAK accreditation audit.

# SCIENTIFIC AND RESEARCH ACTIVITIES OF THE HOSPITAL

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(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 2019, Na Homolce Hospital managed a total of 59 grant projects, of which 48 were supported by the institutional support of the Czech Ministry of Health, and 11 targeted support grants were supported by the Agency for Medical Research of the Czech Ministry of Health.

### Grants from the Czech Ministry of Health

- In 2019, 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. 1 RVO-NNH/2019). 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, 3 research projects which started in 2014, 5 research projects initiated in 2015, 8 projects initiated in 2016, 12 projects initiated in 2017, 9 projects initiated in 2018 and 11 new projects were supported by the institutional support of the Czech Ministry of Health for 2019. 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 April 2019 and continues at present.

## Special-purpose grants of the Agency for Medical Research

Department	Project title	Allocated number	Grant provider (main beneficiary)
Neurosurgery	New concepts of therapeutic focus of human glioblastoma microenvironment	15-31379A	AZV MZ ČR (Central Military Hospital in Prague)
Cardiology	Left atrial appendage catheter occlusion versus new oral anticoagulant therapy in patients at risk with atrial fibrillation (study PRAGUE-17)	15-29565A	AZV MZ ČR (3rd School of Medicine)
Cardiology	Extracorporeal membrane oxygenation in the treatment of cardiogenic shock (study ECMO-CS)	15-27994A	AZV MZ ČR (NHH)
Radiodiagnostics	Diagnostic neurophysiological and laboratory markers and pathophysiological mechanisms of functional movement disorders	16-29651A	AZV MZ ČR (General Teaching Hospital)
Neurology	Morphological characteristics of atherosclerotic plaque in the carotid artery associated with plaque progression and risk of brain stroke	17-31016A	AZV MZ ČR (Central Military Hospital in Prague)
Radiodiagnostics	Detection of gadolinium retention dynamics in the brain after application of contrast agents by altering T1 and T2 relaxation times	NV18-04-00457	AZV MZ ČR (NHH)
Radiodiagnostics	Primary progressive aphasia - clinical, MRI and structural correlations. Prospective multicenter study	NV18-04-00346	AZV MZ ČR (1st School of Medicine)
Vascular Surgery	Application of amniotic membrane in the treatment of long-term non-healing wounds	NV18-08-00106	AZV MZ ČR (1st School of Medicine)
Cardiology	Dual antiplatelet therapy of patients with acute myocardial infarction in cardiogenic shock - DAPT-SHOCK AMI study	NV19-02-00086	AZV MZ ČR (Teaching Hospital Královské Vinohrady)

Radiodiagnostics	Overlapping of neurodegenerative dementias and their clinicopathological correlations: a prospective-restrospective multicenter study	NV19-04-00090	AZV MZ ČR (Thomayer Hospital)
Stereotactic and radiation neurosurgery	Clinical, imaging and biological predictors of the effects of deep brain stimulation in Parkinson's disease	NV19-04-00233	AZV MZ ČR (1st School of Medicine)

## Clinical studies

In 2019, a total of 119 active clinical studies were recorded, of which 11 clinical studies were completed during 2019.

Number of studies performed in 2019 - by subject and department

Clinical studies	Medical devices	Medicines	Partial health services	Total number	
Cardiology	62	4	0	66	55 %
Cardiac surgery	7	1	0	8	7 %
Neurology	0	1	0	1	1 %
Gynecology	1	0	0	1	1 %
Oncology	0	2	0	2	2 %
Radiodiagnostics	1	0	6	7	6 %
Nuclear medicine / PET	0	0	29	29	24 %
Pharmacy	0	0	4	4	3 %
Clinical biochemistry...	0	0	1	1	1 %
<b>Total</b>	<b>71</b>	<b>8</b>	<b>40</b>	<b>119</b>	<b>100 %</b>

### Performed Audits of Clinical Studies

In 2019, 1 audit of a clinical study was performed by the State Institute for Drug Control - SÚKL

06/2019	SÚKL audit	cl. studies BackBeat	comments dealt with
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### Summary

Basic breakdown of research projects in Na Homolce Hospital in 2019

Scientific project type	Subject	Number
Clinical studies	Medical devices	71
	Medicines	8
	Partial health services for external researcher	40
Research grants	Institutional support (internal grants)	48
	Special purpose support (external grants)	11
<b>Research projects - total</b>		<b>178</b>



## PUBLICATIONS IN 2019

## Publications Co-Authored by the Staff of Na Homolce Hospital

### Foreign

#### Articles from Journals with IF

- 1 ALONSO, C. - BUNEVICIUS, A. - TRIFILETTI, D. - LARNER, J. - LEE, C. - PAI, F. - LIŠČÁK, R. - KOSAK, M. - KANO, H. - SISTERSON, N. - MATHIEU, D. - LUNSFORD, L. - SHEEHAN, J. Safety and efficacy of repeat radiosurgery for acromegaly: An International Multi-Institutional Study. *Journal of Neuro-Oncology*. 2019, 145(2), 301-307. ISSN 0167-594X.
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# QUALITY AND SAFETY



## International JCI accreditation



Organization Accredited  
by Joint Commission International

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. Na Homolce Hospital has an internationally valid accreditation of medical facilities Joint Commission International (JCI) since 2005 – for the longest period of time in the Czech Republic. In May 2017, the hospital successfully renewed this accreditation from JCI for the fifth time, which is a proof of the top healthcare provided to patients, as well as the high quality of the other processes within the entire hospital. The accreditation is issued for a period of three years and is valid until May 2020.

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).

## National accreditation by SAK

In 2019, the hospital began preparations for domestic accreditation by SAK, o. p. s. In the autumn of 2019, a pre-accreditation survey was successfully conducted and a date for a proper accreditation survey was planned – from 27 to 29 January 2020. Accreditation by SAK (assessment of the set quality system of the hospital by an independent third party), which is completely voluntary in the Czech Republic, is the most demanding in our country. It consists of 97 assessed standards, which is significantly more than the legislative basis of 17 standards.



The Joint Accreditation Commission was established in 1998. Its mission is to continuously increase the quality and safety of health care in the Czech Republic through the accreditation of medical facilities, consulting and publishing activities. Since June 21, 2012, Spojená akreditační komise, o. p. s., has been an authorized evaluator of the quality and safety of inpatient health care for types of health care in accordance with provisions of Section 5(2)(f) to (h) of Act No. 372/2011 Coll., according to the restrictions on granting authorization pursuant to Decree No. 102/2012 Coll.

SAK accreditation standards cover all clinical areas of the activities of the facility: diagnostic care, anesthesiology and surgery, drug management and, last but not least, coordination and continuity of care. However, requirements are also placed on non-clinical areas related to patient care: e.g. catering, hospital operation (repairs, services, technical wiring), cleaning, hygiene in the hospital environment, fire protection, management. Almost all employees were directly involved in the preparations.

From 27 to 29 January 2020, an accreditation survey of the Spojená akreditační komise, o. p. s., took place at Na Homolce Hospital, including an assessment of the quality of care and patient safety in accordance with the relevant provision of Act No. 372/2011 Coll., on Health Services and the Conditions for Providing them, as amended, and Decree No. 102/2012 Coll., on Evaluation of Quality and Safety of Inpatient Health Care, as amended. Based on this survey, the hospital obtained accreditation for the period of the following 3 years. Spojená akreditační komise, o. p. s., praised the efforts of management and employees to increase the quality of care and patient safety by participating in the accreditation process.

## Quality systems at Na Homolce Hospital

### ISO 15189

The following laboratories: Department of Clinical Biochemistry, Hematology and Immunology, 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.

## Internal quality and safety audits

Year-round internal audits (process, targeted, consulting) were conducted to determine compliance with established systems/processes in common practice, for example regarding medical records, drug management, hygienic-epidemiological regime, occupational health and safety, environmental and information safety, storage and disposal of chemicals and waste, complement operation and other areas related to the provision of health services. In 2019, more than 763 internal audits were carried out according to the set plan with the aim of visiting all workplaces of Na Homolce Hospital (inpatient wards, outpatient units, operating rooms, complement and other non-medical workplaces). These audits provide feedback on the level of quality and safety settings in the hospital, based on preventive and corrective measures or opportunities to improve ongoing processes.

## Adverse event management

Monitoring and systematic evaluation of individual events is one of the key approaches that enables the hospital to increase the quality and safety of health services provided. The Quality Department manages the electronic application "Electronic Data Storage", in which all unexpected undesirable or potentially dangerous events that could endanger or already endangered the health or safety of patients, staff or hospital visitors are recorded and analyzed. In 2019, more than 200 reports were registered in the electronic application.

## Adverse event reporting to the Institute of Health Information and Statistics

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 a year to the Czech Institute of Medical Information and Statistics. On the basis of data obtained from various health care facilities in the Czech Republic, the Institute of Health Information and Statistics makes comparisons in individual event categories (falls, pressure ulcers, etc.) and according to the type of facility. Na Homolce Hospital is included in category S - specialized hospitals / specialized centers. In comparison with other medical facilities, we have been achieving very good results for a long time.

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

## Development of costs and revenues

Medical costs	2018 (in CZK mil.)	2019 (in CZK mil.)	Increase/decrease 2019/2018 (in CZK mil.)	2019/2018 in %
Medicines	85	90	5	106
Separately accounted medicines	74	73	-0	100
Blood and blood derivatives purchase	42	41	-2	96
Special medical materials	195	196	1	100
Separately accounted materials	783	832	49	106
Labour costs (in CZK mil.)	2018 (in CZK mil.)	2019 (in CZK mil.)	Increase/decrease 2019/2018 (in CZK mil.)	2019/2018 in %
Wages	1 161	1 264	103	109
Obligatory payments	388	423	35	109
Other costs (in CZK mil.)	2018 (in CZK mil.)	2019 (in CZK mil.)	Increase/decrease 2019/2018 (in CZK mil.)	2019/2018 in %
Other consumables (including low-value fixed assets)	75	75	0	100
Energy consumption	42	50	8	119
Sale of goods	127	127	0	100
Repairs and maintenance	68	67	-2	98

Travel expenses and education	9	9	-0	100
Services	108	103	-5	95
Other costs	157	163	6	104
Depreciation	140	153	13	109
Total costs	3 455	3 667	211	106
Costs before taxes	3 435	3 615	180	105

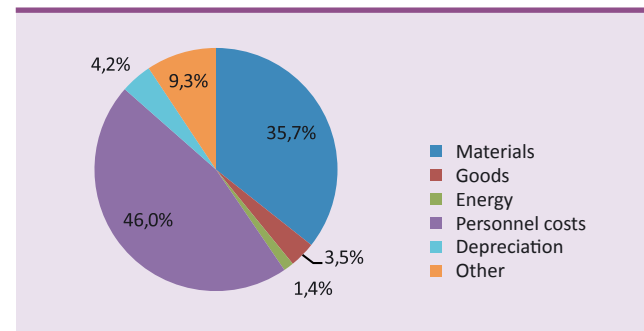
Revenues (in CZK mil.)	2018 (in CZK mil.)	2019 (in CZK mil.)	Increase/decrease 2019/2018 (in CZK mil.)	2019/2018 in %
Revenues from own goods and services	3 196	3 552	356	111
- of which revenues from health insurance companies	3 136	3 491	355	111
Sale of goods	174	176	2	101%
Financial and other revenues	163	165	2	102%
Total revenues	3 533	3 894	361	110%

Profit (loss) (in CZK mil.)	2018 (in CZK mil.)	2019 (in CZK mil.)	Increase/decrease 2019/2018 (in CZK mil.)	2019/2018 in %
Profit (loss) before taxes	98	279	181	285
Profit (loss) in the accounting period	77	227	150	293

### Costs structure by types

	2018 (in CZK mil.)	2019 (in CZK mil.)	share in the total in 2019
<b>NHH total</b>	<b>3 455</b>	<b>3 667</b>	<b>100%</b>
Materials	1 254	1 307	35,7%
Goods	127	127	3,5%
Energy	42	50	1,4%
Personnel costs	1 549	1 687	46,0%
Depreciation	140	153	4,2%
Other	343	342	9,3%

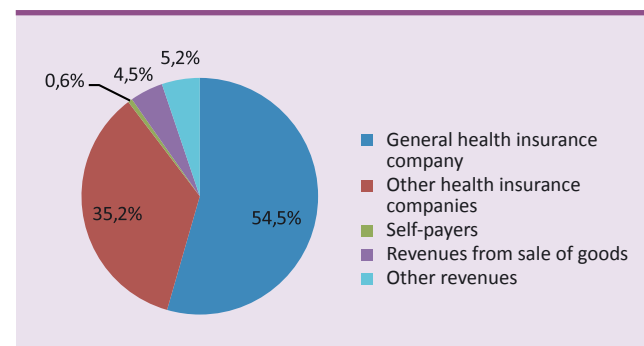
2019 costs structure by types



### Structure of revenues

	2018 (in CZK mil.)	2019 (in CZK mil.)	share in the total in 2019
<b>Total revenues</b>	<b>3 533</b>	<b>3 894</b>	<b>100%</b>
General health insurance company	1 965	2 121	54,5%
Other health insurance companies	1 171	1 371	35,2%
Self-payers	24	24	0,6%
Revenues from sale of goods	174	176	4,5%
Other revenues	199	202	5,2%

Structure of revenues in 2019

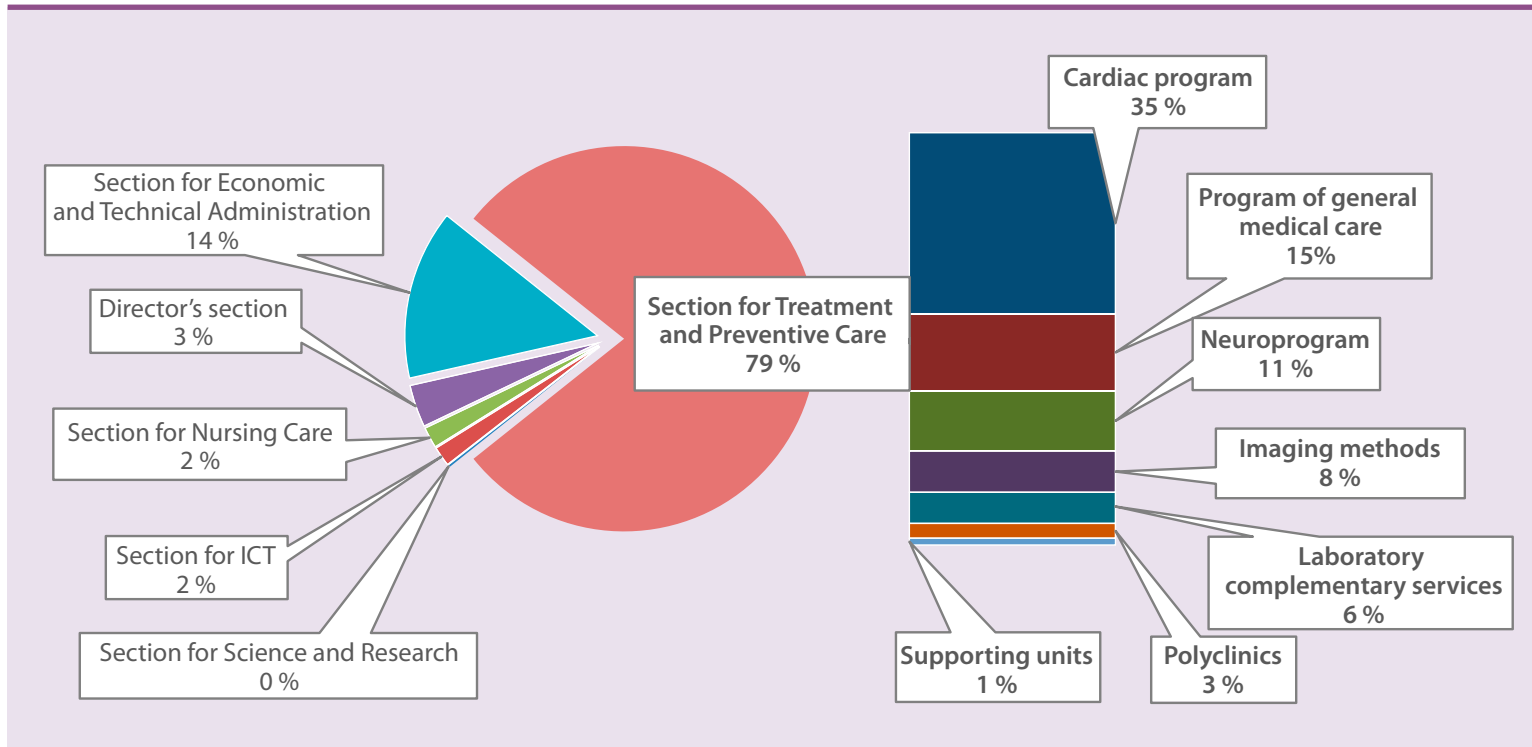




## Costs structure by section

	2018 (in CZK mil.)	2019 (in CZK mil.)	share in the total in 2019
NHH total	3 455	3 667	100 %
Section for Science and Research	6	7	0,2 %
Section for ICT	58	61	1,7 %
Section for Nursing Care	69	65	1,8 %
Director's section	102	130	3,6 %
Section for Economic and Technical Administration	523	523	14,2 %
Section for Treatment and Preventive Care in total	2 697	2 881	
Cardiac program	1 168	1 268	34,6 %
Program of general medical care	499	538	14,7 %
Neuroprogram	388	418	11,4 %
Imaging methods	293	290	7,9 %
Laboratory complementary services	203	217	5,9 %
Polyclinics	103	104	2,8 %
Supporting units	42	46	1,3 %

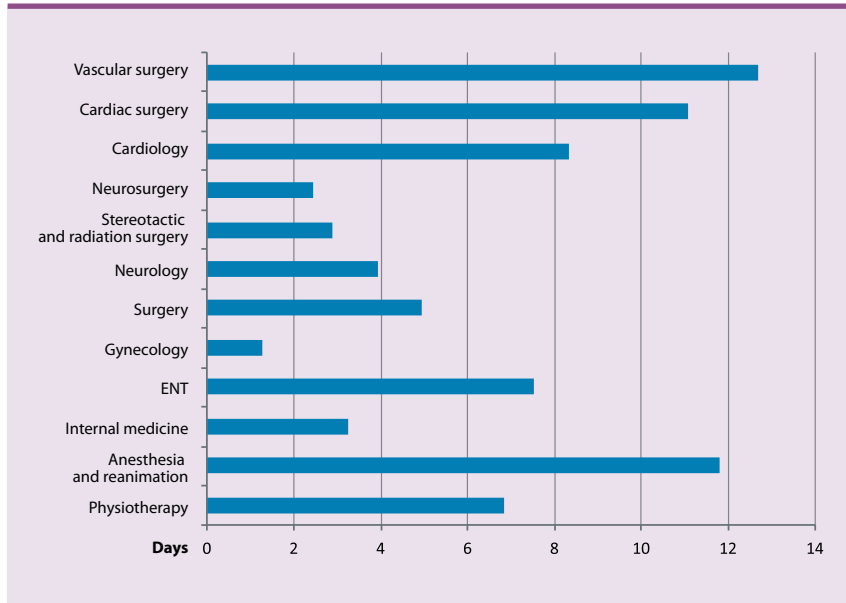
Costs structure by section



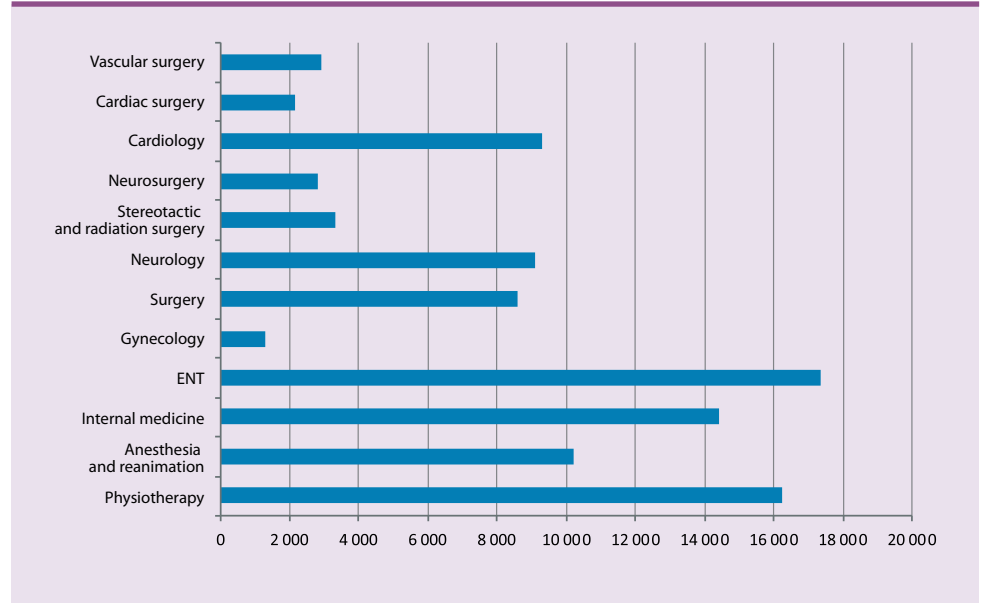
## Medical data

Cost unit	Title	2019		
		Mortality	Average treatment period	Number of treatment days
01	Vascular surgery	1,1%	6,83	16 238
02	Cardiac surgery	1,1%	11,80	10 228
05	Cardiology	1,1%	3,26	14 428
11	Neurosurgery	0,6%	7,53	17 362
12	Stereotactic and radiation surgery	0,1%	1,29	1 269
15	Neurology	2,7%	4,94	8 608
21	Surgery	0,0%	3,92	9 116
22	Gynecology	0,0%	2,88	3 335
23	ENT	0,0%	2,44	2 793
25	Internal medicine	3,7%	8,32	9 288
26	Anesthesia and reanimation	15,2%	11,07	2 136
31	Physiotherapy	0,0%	12,69	2 905
NHH	NHH	1,1%	5,18	97 706


Average treatment period




Number of treatment days



# Statutory audit of the annual financial report for 2019





EKONOMIKA ■ PORADENSTVÍ ■ AUDIT ■ DAŇOVÉ PORADENSTVÍ

**Zpráva nezávislého auditora o přezkoumání hospodaření  
státní příspěvkové organizace  
Nemocnice Na Homolce  
za rok 2019**

7. 2. 2020

**Auditorská společnost**

FIZA, a.s. se sídlem Hroznatova 3, 615 00 Brno, IČ 26252325, číslo oprávnění 377.

**Auditor**

Ing. Jiří Ficbauer, CSc., MBA, číslo oprávnění 0431

**Název, sídlo a IČ státní příspěvkové organizace**

Název: Nemocnice Na Homolce  
Sídlo: Roentgenova 2, PSC 150 30 Praha 5  
IČ: 00023884

**Období, za které bylo provedeno přezkoumání**

Ověřovaným účetním obdobím je rok 2019. Toto účetní období bylo uzavřeno dnem 31. 12. 2019.


**Vymezení odpovědnosti**

Za vedení účetnictví, za jeho úplnost, průkaznost a správnost odpovídá ředitel státní příspěvkové organizace. Naším úkolem je, na základě provedeného ověření, zpracovat zprávu a vyjádřit názor na účetní závěrku a hospodaření státní příspěvkové organizace.

**Rozsah přezkoumání**

Předmětem přezkoumání je účetní závěrka státní příspěvkové organizace za rok 2019. Přezkoumání hospodaření také zahrnovalo ověření údajů:

- v účetní závěrce za rok 2019;
- o dodržení zásad hospodaření státní příspěvkové organizace v roce 2019;




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- o plnění příjmů a výdajů rozpočtu;
- o ostatních peněžních operacích;
- o tvorbě a použití peněžních fondů;
- o nákladech a výnosech hlavní a hospodářské činnosti.

Předmětem přezkoumání bylo rovněž nakládání s majetkem ve vlastnictví státní příspěvkové organizace, zadávání a uskutečňování veřejných zakázek, stav pohledávek a nakládání s nimi, ručení za závazky fyzických a právnických osob, zastavování movitých a nemovitých věcí ve prospěch třetích osob a zřizování věcných břemen k majetku.

Přezkoumání hospodaření bylo naplánováno a provedeno výběrovým způsobem s ohledem na významnost jednotlivých skutečností tak, aby auditor získal přiměřenou jistotu pro své vyjádření.

Přezkoumání bylo provedeno v souladu se zákonem č. 93/2009 Sb., o auditorech a o změně některých zákonů (zákon o auditorech). Dále bylo provedeno v souladu se standardem ISAE 3000 „Ověřovací zakázky, které nejsou auditem ani prověrkami historických finančních informací“, přičemž byla současně přiměřeně aplikována i ustanovení dalších standardů ISA. Dále byl proveden s přihlédnutím zejména k:

- zákonu č. 563/1991 Sb., o účetnictví, ve znění pozdějších předpisů,
- zákonem č. 218/2000 Sb., o rozpočtových pravidlech a o změně některých souvisejících zákonů (rozpočtová pravidla), ve znění pozdějších předpisů;
- vyhláškou č. 410/2009 Sb., kterou se provádějí některá ustanovení zákona č. 563/1991 Sb., o účetnictví, ve znění pozdějších předpisů, pro některé vybrané účetní jednotky, (dále také jen „vyhláška č. 410/2009 Sb.);
- Českými účetními standardy pro některé vybrané účetní jednotky, které vedou účetnictví podle vyhlášky č. 410/2009 Sb. (účinným od 1. 1. 2010);
- Zákonu č. 134/2016 Sb., o zadávání veřejných zakázkách, ve znění pozdějších předpisů a
- dalším navazujícím normám, předpisům, zákonným ustanovením a obvyklým postupům.

Rozsah provedených prací na přezkoumání hospodaření státní příspěvkové organizace nespĺňuje požadavky pro vydání auditorského výroku, a proto tato zpráva není zprávou auditorskou, ale je zprávou ověřovací.

#### **Výrok auditora**

Při provedení přezkoumání hospodaření státní příspěvkové organizace byl prověřen stav účetnictví, účetních výkazů a ostatní skutečnosti ověřující správnost hospodaření, a nebyly zjištěny žádné významné nedostatky.

Auditor je toho názoru, že hospodaření státní příspěvkové organizace a její účetní závěrka podává ve všech významných ohledech věrný a poctivý obraz aktiv, závazků, vlastních zdrojů krytí stálých a oběžných aktiv, cizích zdrojů a finanční situace státní příspěvkové organizace k 31. prosinci 2019 a výsledku hospodaření za rok 2019 v souladu se zákonem o účetnictví a příslušnými předpisy České republiky.

Při provádění přezkoumání hospodaření státní příspěvkové organizace nebyly zjištěny významné nedostatky ani rozpory se závažnými právními předpisy, a proto vyslovuje auditor výsledek přezkoumání státní příspěvkové organizace

**bez nedostatků**

**Ing. Jiří Ficbauer, CSc., MBA**  
auditor  
číslo oprávnění 0431

**FIZA, a.s.**  
auditorská společnost  
číslo oprávnění 377

# INFORMATION DISCLOSURE

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

Pursuant to the provision of Section 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 “NNH”) presents the following annual report for 2019, 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:** NNH received a total of 2 requests for information disclosure. No decision to reject or partially reject the application has been issued.
- b) **The number of appeals filed against the decision:** NNH did not receive any appeal against the decision on the application.
- c) **Judgements concerning the review of the legality of the decision on the application and an overview of the expenses incurred in connection with court proceedings in accordance with law:** There is 1 legal proceeding underway to review the decision of Na Homolce Hospital to refuse a request for information. This procedure does not concern applications received by NNH in 2019.
- d) **List of granted exclusive licenses:** No exclusive licenses were granted in connection with applications received in 2019.
- e) **The number of complaints filed under Section 16a, reasons for filing and the manner of their settlement:** NNH did not receive any complaint pursuant to Section 16(a) of the Act.
- f) **Other information related to the implementation of the Act:** NNH does not have any other information that relates to the application of the law during 2019.



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