

# 2014 ANNUAL REPORT



ACCREDITED  
BY JCI

# ABOUT US



# CONTENT

## **ABOUT US**

Introduction  
Hospital Management and Bodies  
Na Homolce Hospital Profile  
Human Resource Management

## **OUR ACTIVITIES**

Neurological – Neurosurgical Programme  
Cardiovascular Programme  
Programme of General Medical Care  
Outpatient Departments  
Summary of Activities of Departments Providing  
AA Club Homolka  
Grants Under Way in 2014  
Publications in 2014

## **QUALITY AND SAFETY**

International accreditation by the JCI  
System quality in Na Homolce Hospital  
Risk management –Stop pressure ulcers campaign  
Monitoring of patient satisfaction

## **ECONOMIC STABILITY**

Expenses and revenues

## **INFORMATION DISCLOSURE PURSUANT TO ACT NO. 106/1999 COLL.**

# INTRODUCTION



Although I was appointed Director of the Na Homolce Hospital on 1 October 2014, let me use the introduction to the present Annual Report to outline briefly the achievements of the Hospital for the whole year. First I would like to thank all physicians and other medical staff for their highly professional approach and efforts that helped the Na Homolce Hospital to meet, for several times now, the requirements of JCI international accreditation audit again in 2014. It is particularly the staff of the whole Hospital that promotes the reputation of the Na Homolce Hospital as a top-quality healthcare facility of a world standard - a goal that has been set out as a priority also in the strategy of the Hospital development for 2015–2020.

We will, however, face also other challenges. Upon assuming the position of Director, one of the main task I got from the Minister of Health, was to wind up all subsidiaries providing all economic and business activities and return these activities back to the Hospital. I made the first step in this direction already at the end of 2014, namely changes in the management system, the results of which will become fully obvious in 2015. As concerns the economic results, I am

glad to announce that 2014 was a profitable year for the Hospital. On the other hand, we must get ready for the coming period when we will face sanctions of the public administration authorities for the economic management of the Hospital in the period of 2008–2012. And even if the new management will make every effort to prevent or at least alleviate the sanctions in the order of millions of CZK, we must be prepared to cope with them.

In the conclusion let me also extend thanks to the donors of the Homolka Foundation Fund for their contributions to investments in the equipment of the Hospital. We appreciate all such gifts as each of them specifically conduces to improvement of conditions both for our staff and patients. Last but not least, I wish to thank also all our patients that they prefer our hospital. Thanks to their interest our Hospital is a profitable institution which is not so common to similar facilities in the Czech Republic.

Dr. Ing. Ivan Oliva

# HOSPITAL MANAGEMENT IN 2014



## **Dr. Ing. Ivan Oliva**

Director of the Hospital

(in the post since 1 October 2014)



## **Zbyněk Fuksa, MD**

Deputy Director for Treatment  
and Preventative Care



## **Michal Šetlík, MD**

Deputy Director for Innovation and Development

(in the post since 1 October 2014, until 30 September 2014  
Director of the Hospital)



## **Eva Kuříková**

Head Nurse



## **Ing. Martin Dařílek**

Deputy Director for Economic and Technical  
Administration (in the post since 1 November 2014)

## **Ing. Jiří Havel**

Head of Department for Financial Planning and Execution

(in the post since 1 November 2014, until 31 October 2014 Deputy for Financial  
Planning and Execution)



## **Ing. Jaroslava Němcová, MBA**

Head of Department for Healthcare Finance

(in the post since 1 December 2014)

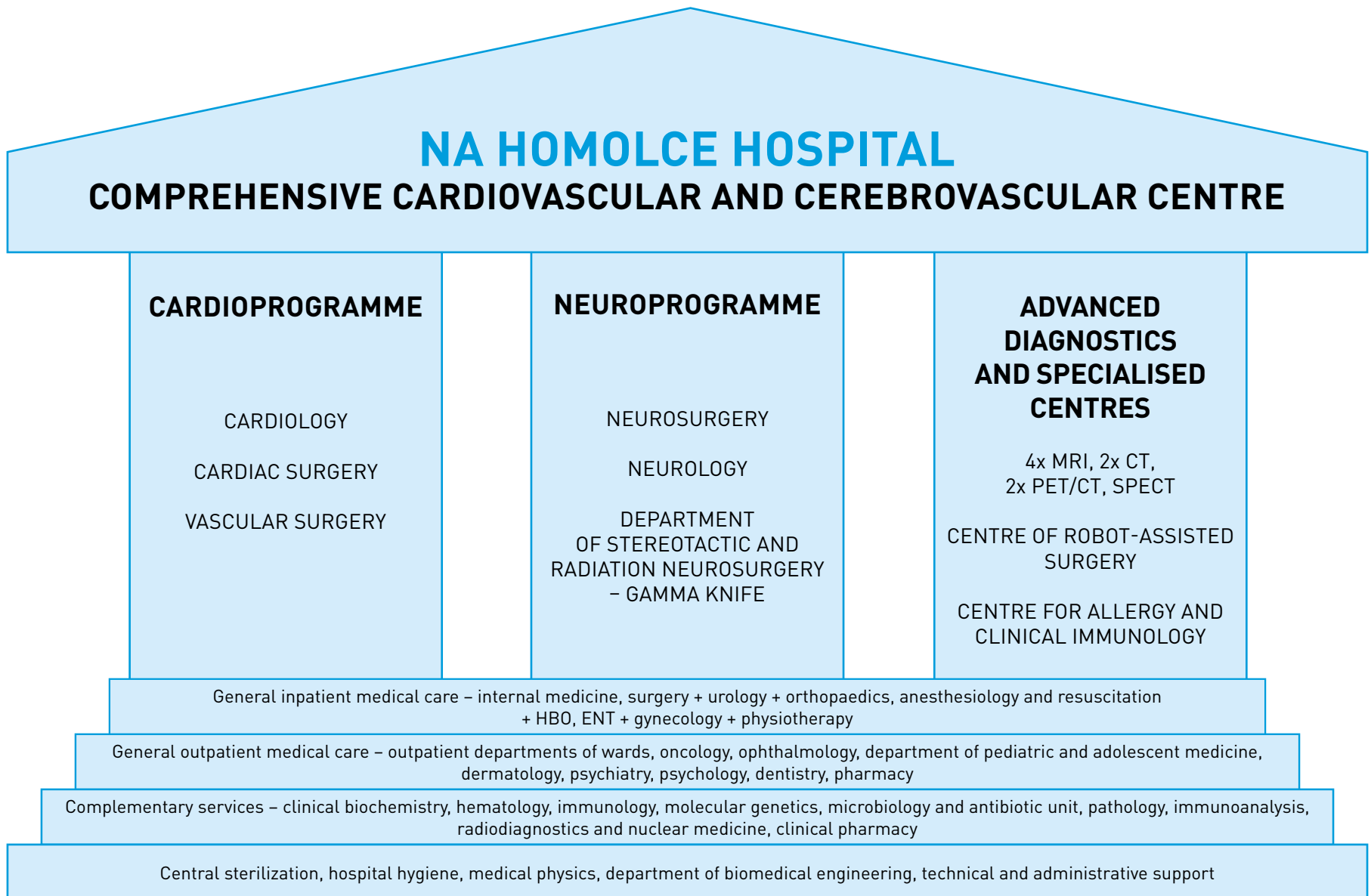
## **Ing. Miroslava Trávníčková**

Deputy for Healthcare Finance

(until 31 October 2014, since 1 November 2014 the position was cancelled)



# HOSPITAL PROFILE



# HUMAN RESOURCE MANAGEMENT

Na Homolce Hospital	Doctors	Pharmacists	General nursing staff § 5	Other non-medical professionals	Other non-medical specialized professionals	Medical staff under professional supervision	Other non-medical professionals	Technicians	Manual workers	Total
Wages paid, total CZK	287 799 584	9 065 308	328 026 859	50 149 087	28 756 306	59 743 054	637 144	96 877 140	41 064 044	902 118 526
Average FTE	272,5	13,66	752,54	111,32	58,00	206,28	1,00	218,36	159,35	1793,01
Average salary CZK	88 012	55 303	36 324	37 541	41 317	24 135	53 095	36 971	21 475	41 928



# OUR ACTIVITIES

SUMMARY OF ACTIVITIES  
OF CLINICAL PROGRAMMES



# NEUROLOGICAL-NEUROSURGICAL PROGRAMME



## ■ DEPARTMENT OF NEUROLOGY

**Head of the Department: Miroslav Kalina, MD**

### ACTIVITIES OF THE DEPARTMENT

1. Inpatient care for neurological patients
2. Epilepsy Centre with a complete epilepsy surgery programme, part of which is an epilepsy monitoring unit (EMU) and an epilepsy counselling unit providing outpatient care to patients with epilepsy
3. Neurovascular outpatient department
4. Transcranial doppler ultrasonography
5. Two electromyography laboratories using the method of EMG and somatosensory and motoric evoked potentials
6. Specialised laboratory for visual and auditory evoked potentials
7. Two EEG laboratories
8. Centre for Sleep Disorders
9. The neurological ICU covering the whole range of acute neurological treatment with a focus on acute cerebrovascular conditions, is a key component of the Comprehensive Cerebrovascular Centre

### ORGANISATIONAL UNITS OF THE DEPARTMENT

#### Breakdown by cost centres:

CS 1510	inpatient department
CS 1520	ICU
CS 1540	outpatient department

Part of the inpatient department is the Epilepsy Centre with an epilepsy monitoring unit (EMU) and an epilepsy counselling unit as a separate section managed by a physician (Z. Vojtěch, MD) and a nurse (Schwarzová).

The Department of Neurology includes also a fully accredited Centre for Sleep Disorders with a sleep laboratory for sleep monitoring by polygraph recording, with two monitored beds. It indicates patients for ENT interventions and mainly for the CPAP, BiPAP therapy helping patients with sleep apnea syndrome.

The outpatient section includes extrapyramidal counselling unit (Peregrin, MD), an outpatient department focused on neuroimmunological diseases of the central nervous system, sclerosis multiplex

in particular (Paďourová, MD); an outpatient department for patients with cerebrovascular diseases (M. Kovář, MD); and an outpatient department for patients with neuromuscular diseases (V. Skovajsa, MD).

### BASIC DATA

number of doctors	15
number of nursing staff	43
administrative staff	2
number of beds	33
• standard	21
• intensive	6
• EMU	4
• sleep laboratory	2
occupancy rate of standard beds	85.8%
ICU occupancy rate	91.7%
average treatment period	5.2 days
standard care	4.1 days
intensive care	10.1 days
number of admissions	1 647 (105% as compared to 2013)
outpatient examinations total	17 877 (99.2% as compared to 2012)

PRODUCTION				
Period: 01.01.2013 - 31.12.2013	Projected	Actual	Fulfilment (%)	Actual vs projected data
CaseMix for DRG alpha – domestic patients insured by other than the General Health Insurance Company	804	785	98%	-19
CaseMix for DRG alpha - domestic patients insured by the General Health Insurance Company (111)	1 313	1 230	94%	-83
Number of inpatients in CaseMix for DRG alpha - domestic patients insured by other than the General Health Insurance Company	545	575	106%	30
Number of inpatients in CaseMix for DRG alpha - domestic patients insured by the General Health Insurance Company (111)	897	925	103%	28
Scoring (number of points) for outpatient care total - domestic patients insured by other than the General Health Insurance Company	5 811 484	5 642 023	97%	-169 461
Scoring (number of points) for outpatient care total - domestic patients insured by the General Health Insurance Company	8 261 432	8 397 480	102%	136 048

Except for the CaseMix parameter for hospitalization flat rate concerning patients insured by the General Health Insurance Company (fulfilled by 94%) and patients insured by other than the General Health Insurance Company (fulfilled by 98%), all the projected production parameters were met. The decrease was caused by ICU reconstruction under way from 1 October 2014, as a result of which the number of beds in the standard ward was reduced by 6 and in ICU by 2 beds. In addition, ICU moved to temporary premises which did not allow long-term care for patients with lung-ventilation.

Total costs of the Department	64 714 827	64 824 613	100%	109 786
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The planned total costs were exceeded only minimally, by CZK 136 048, which is by CZK 3.5 million better than in 2013, and the increase was caused mainly by wage costs induced by the hospital founder. The costs of material, medical and healthcare products, are stable.

## PERFORMANCE OVERVIEW

### INPATIENT ADMISSIONS

In 2014, the EMU admitted 221 patients, of which 12 were monitored by surgically implanted electrodes while 45 were indicated for epilepsy surgery, i.e. open surgery or implantation of a vagal stimulator (13 implantations) or stereotactic thermoablation.

In total 29 mechanical removals of endovascular thrombi and intra-arterial thrombolyses, and 61 intravenous thrombolyses were carried out in the ICU, which is additional increase as compared to 2013. The ICU capacity mainly as concerns patients with acute ischemic stroke, remains limited due to lack of beds as well as due to absence of beds for chronic respiratory and follow-up care, which results in long-term hospitalization in the ICU. Inadequate number of intensive beds in the Comprehensive Cerebrovascular Centre does not allow treatment of more patients using sophisticated endovascular methods. In total 72% of patients were admitted from Prague or Central Bohemian region, and 23% from other regions of the Czech Republic. Since 1 October 2014, the number of ICU beds has been reduced to 4 due to reconstruction and thus the actual increase of the number of interventions as compared to 2013 was ensured by increased efficiency and efforts of the staff.

## OUTPATIENT EXAMINATIONS

The year-on-year comparison shows almost the same number of outpatient examinations (99.1% as compared to 2013). A positive trend is a continuous increase of the number of patients in specialised outpatient departments – epilepsy, sleep, neuroimmunological and extrapyramidal. The capacity of electrophysiological, EEG and sonography laboratories and mainly neurology outpatient department is fully used.

## CHANGES/ NEW EVENTS IN 2014

Department of Neurology continues to provide postgraduate education in epileptology (4 fellows + training of two specialised epileptologists), electroencephalography (training courses, 3 fellows) and electromyography (2 fellows); as well as specialised undergraduate training in neurology of students of 3rd Faculty of Medicine of Charles University (M. Kalina, MD, Z. Vojtěch, MD).

The Department is one of the three main centres for epilepsy and epilepsy surgery in the Czech Republic. In 2014, a total of 45 patients were operated on there, with certain long-term results of epilepsy surgery exceeding the world standard. The Department closely cooperates with the Department of Cardiology in diagnosing unclear disorders of consciousness.

The Department is perceived by specialists in neurology as a leading facility providing top quality consulting services mainly in the field of epileptology, cerebrovascular disorders and sleep disorders.

The Centre for Sleep Disorders has a full accreditation and its capacity is fully used in the long-term run. One of its focuses is diagnosing sleep disorders of difficult-to-treat hypertension. In 2014, the Centre treated 221 patients, of which 62 were indicated for therapy by permanent overpressure in the airways (CPAP or BiPAP). (Senior physician of the Centre is Tomáš Procházka, MD).

The concept of a Comprehensive Cerebrovascular Centre is successfully implemented. There are only two such centres in Prague and the Central Bohemian region. The difficult situation caused by a limited capacity of 6 neurointensive beds is currently addressed by an extensive reconstruction, that should ensure a 12-bed ICU to be opened in July 2015.

## OUTLOOK FOR THE NEXT YEAR

The planned reconstruction and enlargement of the cerebrovascular centre has been under way since 1 October 2014 and its opening is scheduled for July 2015. In 2015, the Department plans to use the higher capacity and increase significantly the number of super-specialised treatment of patients with cerebrovascular disorders. Implementation of its objectives will be supported by the funds from the Integration Operational Programme.

## EDUCATIONAL AND OTHER SPECIALISED ACTIVITIES

### Head of Department Miroslav Kalina, MD

Professional societies:

Czech Neurological Society

Czech League Against Epilepsy – member of the League Board

EPISTOP (civil society) – member of the Board

EPI 99 – member of the Board

Lectures, publications, educational activities:

Regular lectures in the Institute of Postgraduate Studies in Healthcare, organization of the course of acute neurology 2015 and study stays in the field of neurointensive care.

2 active participations in foreign congresses, a number of presentations at domestic national events.

Co-author of 2 foreign and author of 2 domestic publications.

### Denisa Vondráčková, MD

5 presentations at national events, 1 active participation in an international congress, organization of study stays in the field of neurointensive care.

### Zilla Šonková, MD

2 active participations in domestic congresses and 1 in an international congress.

### Zdeněk Vojtěch, MD

Education at 1st and 3rd Faculties of Medicine, Charles University, 14 active participations in domestic national events and 3 in international congresses, 3 domestic and 2 foreign publications.

### Martin Kovář, MD

6 active presentations at domestic events, 1 domestic publication

### Tomáš Procházka, MD

9 presentations at domestic events and 2 at international congresses, 2 domestic and 2 foreign publications

### Vojtěch Skovajsa, MD

4 presentations at domestic events, EMG study stays

### Martin Jerie, MD

5 domestic presentations

## ■ DEPARTMENT OF NEUROSURGERY

Head of the Department: Jan Klener, MD

### Basic data

Number of beds . . . . .	65
Standard . . . . .	45
Intensive . . . . .	8
Intermediate . . . . .	12
Number of doctors . . . . .	22
Number of general nursing staff . . . . .	88
Number of outpatient examinations . . . . .	9979
Number of admissions . . . . .	2988
Bed occupancy rate (%) . . . . .	87
Average length of stay (days) . . . . .	7.4

### Distribution of interventions

Cerebral tumours . . . . .	208
Vascular diseases . . . . .	192
Function interventions . . . . .	65
Spinal diseases including tumours . . . . .	1649
Craniocerebral injures . . . . .	78
Others . . . . .	594
Total . . . . .	2786

In 2014, the Department of Neurosurgery continued to focus on complex diagnostics, surgical treatment and follow-up care of patients suffering from diseases of the central and peripheral nervous system, in order to provide comprehensive and safe services and to improve the quality of life of its patients.

These activities mainly involve the 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. Emphasis is put on the high quality of surgical and postoperative care, using modern methods and technology, minimising stress and risks to patients by good communication with them, and observance of JCI accreditation standards.

The treatment was traditionally carried out within four key areas, namely neuro-oncological, neurovascular, and functional neurosurgery and spinal surgery programmes. A total of 2,786 operations were performed in 2014; a total of 2,988 patients were hospitalised and 9,979 were treated as outpatients. The Department of Neurosurgery in Na Homolce Hospital is both a national and international centre for treatment of a number of medical conditions. The morbidity rate in planned operations corresponds both to the national and international indicators even though the Department usually accepts patients with severe diseases that can only be dealt with in a few facilities in the Czech Republic.

In 2014, surgical treatment was performed in a multifunctional complex of operating theatres equipped with modern technology, including intraoperative magnetic resonance imaging and navigational operating systems, surgical microscopes and intraoperative electrophysiological monitoring. Integration of operating theatre technologies enables to provide patients undergoing operations of the brain, spinal cord or spine with a higher standard of precisely targeted, highly efficient and safe treatment.

**The Neurooncological programme** carries out comprehensive operations on brain tumours including both intra-cranial and extra-cranial brain tumours as well as tumours of the base of the skull. In the surgical treatment, emphasis is put on mini-invasive approach which reduces the burden on the patients; where appropriate, keyhole craniotomy and “non-retraction” neurosurgery, minimising trauma to the brain, are preferred. The Department of Neurosurgery in 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 MR. The safety and accuracy of surgical operations are increased by using functional neuronavigation, intraoperative fluorescent visualisation of tumours or intraoperative electrophysiology monitoring. The year 2014 was the second year when the Department performed resections of problematic brain areas (speech centre) with very good results where patients were temporarily woken up during the operation so that they could cooperate with the surgeons. Neuroendoscopic treatment is being developed

and used in selected cases of hypophyseal adenoma and ventricular tumours. In 2014, in addition to its own surgical programme, the Department of Neurosurgery also promoted other treatment methods, for instance in the form of regular interdisciplinary neuro-oncology seminars attended by a multidisciplinary team of specialists in Na Homolce Hospital and by oncologists from Motol Teaching Hospital (fractionated radiotherapy, chemotherapy, radio-surgical treatment especially with the use of Leksell Gamma Knife or proton treatment).

Within the **Neurovascular programme**, the Department of Neurosurgery is an integral part of the Comprehensive Cerebrovascular Centre which was established in Na Homolce Hospital in April 2010.

The main task in this respect is to provide a comprehensive care to patients with subarachnoid haemorrhage, which includes both treatment of the most frequent cause, i.e. cerebral aneurysm rupture, as well as neurointensive and other type of care. Many microsurgical and endovascular techniques are available as treatments and in 2014 these included plain clipping, clip reconstruction, temporary clipping and remodelling, trapping and indirect methods using vascular occlusion and revascularisation bypass techniques. Also in these cases the neurosurgeons applied the mini-invasive approach to surgery and cerebral retraction and used the latest effective techniques of electrophysiological imaging, intraoperative videoangiography and velocimetry. In selected cases, adenosine was used to arrest the circulation during a brain aneurysm operation. In the field of endovascular treatment, interventional radiologists have at their disposal all currently available endovascular methods for treatment of aneurysms. Microsurgery and endovascular treatments are available on a 24hr basis.

The year 2014 saw increased numbers of operations on unruptured aneurysms, arteriovenous malformations and cavernomas as well as numerous operations on spontaneous intracerebral haemorrhage. Where indicated, decompression craniotomy for some types of ischemic cerebral strokes together with bypasses between extra- and intra-cranial blood flow were carried out in collaboration with the Department of Neurology.

In 2014, the Department began to use intraoperative measurement of arterial blood flow using a transit time flowmeter. Monitoring of

blood flow allows prompt responding to hemodynamic changes and preventing critical lack of blood supply to individual parts of the cerebral tissue, particularly during revascularization surgery.

**The Programme of Functional Neurosurgery** mainly includes epileptology and neurosurgery aimed at reducing pain. The Department of Neurosurgery in Na Homolce Hospital is one of the biggest centres within the Czech Republic for Epileptology. The Department of Neurology, the Leksell Gamma Knife Centre, the Department of Radiodiagnosics, and the PET Centre cooperate in the treatment of about 30-40 indicated and surgical patients annually and the total number of patients undergoing surgery for drug resistant epilepsy has reached about 500.

Resection operations were carried out both by standard navigation technique and also by stimulation treatment (application of vagal stimulators). During the procedure patients are examined by intraoperative magnetic resonance imaging that provides instant feedback on the extent of resection. This increases the safety and effectiveness of the surgery. In cooperation with the Department of Stereotactic and Radiation Neurosurgery, selected patients with pharmacoresistant epilepsy are treated by stereotactic thermolesion.

The main procedures aimed at alleviating pain include the so-called microvascular decompression and partial sensory rhizotomy for intractable pain of the trigeminal nerve.

The treatment of pain by neurostimulation and neuromodulation was developed in collaboration with the Department of Anesthesiology and Resuscitation.

The Department of Neurosurgery in Na Homolce Hospital is one of the leading centres in the Czech Republic for its **spinal surgery programme**. 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 the microsurgical approach and safe mini-invasive techniques using electrophysiological monitoring, where indicated. In 2014, the number of osteoporotic spine fractures increased and were treated in collaboration with intervention radiology by mini-invasive percutaneous vertebroplasty or kyphoplasty.

The range of spinal tumour operations included in 2014 all types of lesions, including intradural, extradural, intramedullary and extramedullary tumours.

The Department of Neurosurgery in Na Homolce Hospital is the Centre of Excellence in navigation neurosurgery and neurosurgery for the dynamic stabilisation of the cervical spine (Bryan, Prestige, Prospace, Discover) for the Czech Republic and the Eastern European region.

In 2014, neurosurgeons in Na Homolce Hospital were involved in postgraduate training of neurologists and neurosurgeons for postgraduate certificate and organised study stays in neurosurgery for Czech and foreign doctors.

In 2014, the Neurosurgery Department dealt with 2 grant projects, 2 world-wide multicentric studies for treatment of malignant brain tumours EF 14-TTF, ACT IV.

The staff of the Department actively participate in international and national congresses, where they had 22 presentations in 2014. Their publications included 4 chapters in a monograph and 1 article in an international impact factor journal.

All members of the Department meet several times a year at sports events, e.g. skiing or cycling tours, which significantly contributes to the positive atmosphere in the Department and is ultimately beneficial also for the patients.

### **Publications and lecturing activities**

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KLENER, J. - REMEŠ, F. Subarachnoidální krvácení. In Neurointenzivní péče. Praha: Mladá Fronta, 2014, s. 292-309. ISBN 978-80-204-3359-6.

KLENER, J. Oftalmická a blister aneurysmata mozku. Supratentorial approaches and clinical anatomy, ECPA MU Brno, 18.9.-19.9.2014. A communication not published in press.

KLENER, J. Retractorless technique in complex neurosurgical procedures. Supratentorial approaches and clinical anatomy, ECPA MU Brno, 18.9.-19.9.2014. A communication not published in press.

KLENER, J. Gravity-assisted ontralateral transfalci approach to paramedian subcortical lesions. Evropský neurochirurgický kongres EANS 2014, Praha, 12.10.-17.10.2014. A communication not published in press.

KLENER, J. Chirurgické přístupy k cévním lezím mozku. Výroční kongres české NCH společnosti, Liberec, 10.12.-12.12.2014. A communication not published in press.

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## ■ DEPARTMENT OF STEREOTACTIC AND RADIATION NEUROSURGERY

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

### Activities of the Department

Radiosurgical treatment by Leksell gamma knife, stereotactic and functional neurosurgery.

The outpatient unit provides consultations and follow-up care to patients undergoing neurosurgery in the Department, as well as specialised consultations in ophthalmology and neurology.

### Organisational units of the Department

The outpatient unit includes neurosurgical, neurophysiological, neurological and ophthalmological outpatient departments, an inpatient ward, 1 operating theatre for stereotactic and functional neurosurgery, the Leksell gamma knife treatment unit

### Basic data

Number of doctors: 6 + 2 external ophthalmologists and two neurologists

Number of general nursing staff: 13 + 1 radiology laboratory assistant

Number of other staff: 6

Number of beds: 8 – short-stay ward (Monday-Friday)

### Performance overview

Number of operations using Leksell gamma knife: 1016

- of this 116 foreigners (11.4%) – Ukraine 2, Poland 28, Slovakia 77, Belarus 1, Bulgaria 1, Kazakhstan 1, Switzerland 1, Lithuania 3, Luxembourg 1, Azerbaijan 1

- form E 112 - 76

- self-payers from EU - 36

- contractual price - 4

Number of other operations: 119

- of this deep brain stimulation 26 (17 primary implantations, 9 reimplantations) and 3 neuromodulation interventions - occipitalis nerve stimulation (ONS) in patients with occipital neuralgia.

Number of admissions – 903

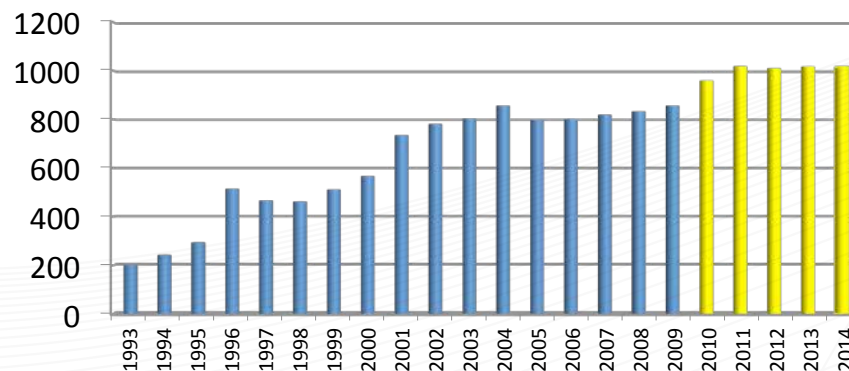
### Outpatient department:

Outpatient examinations - 2676

Consultations sent by mail - 3520

### Number of patients treated by the gamma knife in individual years

(yellow - after installation of the Perfexion model)



### Changes / new events in 2014

In 2014, a total of 1,016 patients were treated by the gamma knife which is again quite a high number (3 patients less than in 2011, when the Department reached a historical maximum), although the radiation exposure was already doubled as compared to the year 2009 (the world average is 272 patients per year, the European average 457 patients). The gamma knife worked reliably throughout the year, with no major defects. At the end of 2013, the full-service contract expired and the year 2014 was covered only by a temporary contract. A four-year contract for source replacement was not concluded, yet, despite negotiations lasting for almost the whole year.

Foreigners still represented a significant share in the total number of patients, namely 11.4%, despite additional decrease of patients from Poland where a second Polish gamma knife centre was opened in Katowice. Another reduction of the number of the Polish patients may be expected in the long run, with the growing experience of the Polish centre. Contractual price was paid only by 4 foreigners.

Consultations were continuously provided to patients with extrapy-

ramidal disorders by Prof. Evžen Růžička, MD and Assoc. Prof. Robert Jech, MD, PhD in the outpatient department for musculoskeletal disorders within the Department of Stereotactic and Radiation Neurosurgery.

The number of ophthalmology indications was stabilized; the gamma knife was used to treat 30 patients with ophthalmological disorders.

The Diros company manufactured the final version of a special string electrode for radiofrequency stereotactic treatment of medial temporal lobe epilepsy, three of which were successfully tested by the Department on patients. Grant funds were used to purchase electrodes for 40 patients, which makes it possible to launch this efficient treatment with adequate time reserve for negotiating reimbursement of the procedure by health insurance companies.

The reputation of the Department was in 2014 recognized on international level by inviting the Department to join the elite group "North American Gamma Knife Consortium".

### **Outlook for the next year**

1. As the new Perfexion gamma knife was installed 5 years ago, the radiation exposure due to the half-life of cobalt-60 has doubled. Therefore it is necessary to plan by mid- 2015 radiation source replacement that should be ideally performed no later than in the last quarter of 2016. As a result the radiation sources would be replaced after 7 years of use. The replacement is negotiated within the tender for a new service contract which is in process. The cost of service and replacement of radiation sources is quite high and will have to be reflected in the budget of the hospital and the Department.

2. The invitation to enter the prestigious club North American Gamma Knife Consortium may be used for a more active presentation of the Department on the international forum, in organising multicentric studies and developing therapeutic standards in radiosurgery.

3. At the end of 2014, the Department organised in the Hospital in cooperation with the Department of Physical Medicine and the company Elekta radiosurgery courses for foreign participants, focused on physical and neurosurgical aspects of radiosurgery with the use of

the gamma knife. The plan is to organise annually 2 courses.

4. The Department will focus also on maintaining the high number of foreign patients that account for approx. 10 % of all its clients.

5. The grant funds for research and development were used for purchase of electrodes for treatment of 40 patients with medial temporal lobe epilepsy. It is a unique treatment which the Department provides as the only facility in the world. This number of electrodes will allow to subsidize the treatment until electrodes are registered and the treatment covered by health insurance companies. Negotiations concerning coverage of electrodes by health insurance companies should take place in the following 3 years.

### **The vision of the Department**

1. The Department of Stereotactic and Radiation Neurosurgery as a "centre of excellence" in the field of radiosurgery with the use of the gamma knife.

2. Offering patients health care on world standard, without unnecessarily long waiting for treatment.

3. Participation in international research and development, involvement in organising multicentric studies, membership of the elite world association "International Gamma Knife Research Foundation" (a new name for the North American Gamma Knife Consortium).

4. Involvement in postgraduate education aimed at obtaining the postgraduate certificate in neurosurgery, organising courses for foreign participants in the field of neurosurgery, radiotherapy and physical medicine. Promotion of international reputation of the Department staff by organising courses and presentations on radiosurgery all over the world.

5. Publishing of the results of the clinical research and development both in the domestic and foreign journals. Involvement of the university graduates and nursing staff of the Department in systematic raising awareness of cooperating facilities of development of radiosurgery.

6. Providing good work conditions and adequate remuneration to all employees of the Department.
7. Promotion of reputation of the Department aimed at attracting foreign clientele.
8. Economically sound operation of the Department promoting technical and human resource development.

### **Educational and other specialised activities**

The Department organised postgraduate training of neurosurgeons within the Institute of Postgraduate Studies in Healthcare (obligatory study stays prior to obtaining postgraduate certificate in neurosurgery – a one-week study stay for 4 neurosurgeons).

In the course of 2014, the gamma knife was visited by 164 registered visitors.

### **Presentations:**

#### **Assoc. Prof. Roman Liščák, MD, PhD**

1. 4.2.2014 The Na Homolce Hospital workshop “Imaging methods in radiosurgery”
2. 20.2.2014 Leksell gamma knife Perfexion start up at HCor centre, Sao Paulo, Brasil, “Gamma knife applications – tumors and vascular”, invited lecture
3. 25.4.2014 XXXVIII. Brno Oncology Days “Radiosurgery by the gamma knife”, invited lecture
4. 17th International Leksell Gamma Knife Society Meeting, 13.5.2014 New York “Leksell gamma knife treatment for pilocytic astrocytomas: long term results”
5. 17th International Leksell Gamma Knife Society Meeting, 15.5.2014 New York “Radisourgery of cavernomas”, invited lecture
6. 17th International Leksell Gamma Knife Society Meeting, 15.5.2014 New York “Leksell gamma knife treatment of the glomus tumor: long term results”

7. 21.5.2014 IX. International Conference – The latest trends in radiotherapy, stereotactic radiotherapy, radiosurgery and brachytherapy IX. „Gamma knife in the treatment of functional diseases“, invited lecture 20 min

8. 18.9.20104 XXI congress ESSFN (European Society for Stereotactic and Functional Neurosurgery“, Maastricht, Netherlands. “Radiosurgery for large arteriovenous malformations” Radiosurgery for large arteriovenous malformations. In Sborník příspěvků XXI congress ESSFN (European Society for Stereotactic and Functional Neurosurgery, Maastricht, Netherlands, 17.9.-20.9.2014. Basel: Karger AG, 2014. s. 53. ISBN 978-3-318-02704-4.

9. 19.9.2014..XXI congress ESSFN (European Society for Stereotactic and Functional Neurosurgery“, Maastricht, Netherlands. “Seizure and neuropsychological outcome after stereotactic amygdalohippocampectomy for mesial temporal lobe epilepsy” In Sborník příspěvků XXI congress ESSFN (European Society for Stereotactic and Functional Neurosurgery, Maastricht, Netherlands, 17.9.-20.9.2014. Basel: Karger AG, 2014. s. 117. ISBN 978-3-318-02704-4.

10. 13.10.2014 15th European Congress of neurosurgery – EANS 2014, Prague, invited lecture “Radiosurgery in vestibular schwannoma”

11. 17.10.2014 15th European Congress of neurosurgery – EANS 2014, Prague, invited lecture “What can radiosurgery offer in the skull base tumor management team”

#### **Gabriela Šimonová, MD, PhD**

1. Treatment of brain metastases by the Leksell gamma knife – patients with 5 and more years of survival. 10th Conference of the Society for Radiation Oncology, Hradec Králové, 20.6.-22.6.2014. A communication not published in press.
2. Radiosurgery of pilocytic astrocytomas. Winter glio meeting, Zaječí, Břeclav, 7.2.-8.2.2014. A communication not published in press.

### **Dušan Urgošík, MD, PhD**

1. Gamma Knife treatment of AVM Prague´s experience. 10th Asian congress of Neurological Surgeons, Astana-Kazakhstan, 9.9.-12.9.2014. A communication not published in press.

2. Cerebrospinal fluid content of neurostimulator pocket in deep brain stimulation – case report. Česká a slovenská neurologie a neurochirurgie , 2013, roč. 2013, č. 109, s. 2S82-2S83. ISSN 1210-7859. Abstrakt: 27.český a slovenský neurologický sjezd a Dunajské sympozium 2013 , Praha, 20.11.-23.11.2013.

3. Trigeminal nerve atrophy in patients with classic trigeminal neuralgia . Česká a slovenská neurologie a neurochirurgie , 2013, roč. 2013, č. 109, s. 2S63. ISSN 1210-7859. Abstrakt: 27.český a slovenský neurologický sjezd a Dunajské sympozium 2013 , Praha, 20.11.-23.11.2013.

4. Trigeminal nerve asymmetry in classic trigeminal neuralgia: evaluation by magnetic resonance imaging. Stereotactic and Functional Neurosurgery, 2014, vol. 92, no. Suppl 2, s. 124. ISSN 1011-6125. Abstract: XXIst Congress of the European Society for Stereotactic and Functional Neurosurgery, Maastricht, the Netherlands, 17.9.-17.9.2014.

5. Cerebrospinal fluid content of neurostimulator pocket-complication of deep brain stimulation in movement disorders - a case report. Stereotactic and Functional Neurosurgery, 2014, vol. 92, no. Suppl. 2, s. 151. ISSN 1011-6125. Abstract: XXIst Congress of the European Society for Stereotactic and Functional Neurosurgery, Maastricht, the Netherlands, 17.9.-20.9.2014.

6. DBS for movement disorders. 10th Asian congress of Neurological Surgeons, Astana, Kazakhstan, 9.9.-12.9.2014. A communication not published in press.

### **Tomáš Chytka, MD**

1. Gamma Knife Radiosurgery for Skull Base Tumors. 15. pracovní dny chirurgie bez lební, Frýdlant v Čechách, 12.9.-13.9.2014. A communication not published in press.

2. Radiosurgery for sellar lesions, Gamma knife perfection. Comprehensive hands-on course of endoscopic pituitary surgery, Ostrava, 11.6.-13.6.2014. A communication not published in press.

# CARDIOVASCULAR PROGRAMME



## ■ DEPARTMENT OF CARDIOLOGY

**Head of the Department: Prof. Petr Neuzil, MD, PhD, FESC**

The clinical activities of the Department cover a wide range of preventative, diagnostic and therapeutic care for patients with diseases of the heart and blood vessels or at an increased risk of these diseases. In 2014, the Department continued to cover all individual specialised areas.

### MULTIFUNCTIONAL CATHETERISATION UNIT:

The number of catheter ablations was again higher as compared to the previous year. **Catheter ablations for heart arrhythmia totalled 986 which is the highest number of such interventions carried out in the Czech Republic.** The so called comprehensive interventions (ablation of atrial fibrillation, atrial and ventricular tachycardia) account for more than 2/3 of all ablations! Treatment of atrial fibrillation is dominating and was used in 476 patients. As compared with the previous year, there was an increase in the number of ablations for persistent or long-term persistent form of atrial fibrillation (a total of 149 ablations). More than 1/3 of ablations for paroxysmal or persistent atrial fibrillation were performed by balloon-based ablation methods (cryoablation and laser ablation). The number of ablations of ventricular tachycardia is also increasing; in 2014 it exceeded for the first time 100 interventions.

The Department routinely uses for ablation the method of remote magnetic navigation Niobe II, Stereotaxis, USA. This method was used to treat 142 patients, mostly for ventricular tachycardia. At the end of the year, reconstruction was completed of one of the three operating theatres, where another remote electromagnetic navigation system Magnetecs was installed.

The Department is one of 3 reference centres in the Czech Republic that perform systematically transvenous extractions of stimulation and defibrillation electrodes. A total of 82 such operations were performed last year, which is the highest number in the Czech Republic.

The Department staff are systematically involved in research and experimental studies. In 2014, they participated in several significant international clinical studies in the field of electrophysiology and cardiostimulation, e.g. CABANA, FIRE and ICE, SELECT-LV, ReMARQable, DDRAMATIC, KONA, etc.

**Since 2012, the Department has been the world leading centre for implantation of leadless pacemakers, with a total number of 102 implantations at the end of 2014.** In addition to the pacemaker Nanostim, SJM, USA (the first implantation in 2012), another type of leadless pacemaker Micra (Medtronic, USA) was clinically tested by the Department in 2014. The study included 29 patients treated in the Department; all interventions were performed without complications and no problems were encountered during the follow-up of patients.

The catheterisation laboratory is involved in the clinical research of treatment of resistant arterial hypertension! Non-invasive renal denervation by therapeutic ultrasound was performed in 13 patients, carotid glomus radiofrequency ablation (Cibiem study) in 3 patients and the pacemaker BackBeat Moderato was implanted to 8 patients, allowing setting up of a special stimulation mode to reduce the blood pressure.

In terms of the number of implanted pacemakers and defibrillators (ICD), the Department has been in the long run one of the largest centres in Europe. **In terms of the Czech Republic, the Department performed again the highest number of implantations (1211) in 2014.** The focus is primarily on implantation of defibrillators and cardiac resynchronisation therapy. The Department continues with the method of implantation of sub-cutaneous defibrillators and implanted 19 of these in 2014. As concerns extraction of stimulation or defibrillation electrodes, 65 of them were performed in 2014, with the success rate of 95%.

The Department of Cardiology is a leading centre in alternative anticoagulant therapy in the Czech Republic by means of percutaneous closure of the left atrial appendage, and performed 22 of them in 2014. The Department uses a unique method of implantation of an occluder with only intracranial ultrasound navigation, eliminating the use of patient-unfriendly oesophageal echocardiography.

Implementation of the project of experimental laboratory went on in the Institute of Physiology of 1st Faculty of Medicine, Charles University. The Department is a training centre for robotic navigation (Hansen Medical) for the Central and Eastern Europe, and different types of cardiac support, new ablation technology and treatment by devices are experimentally verified there.

## INTERVENTION CARDIOLOGY

**A total of 3,226 diagnostic coronary angiographies and 3,519 catheterisation interventions were performed which are the highest numbers achieved during the whole period of functioning of invasive cardiology in the Na Homolce Hospital.**

As compared with 2013, the number of coronary interventions (PCI) grew by 10% to the total number of 982 PCI interventions. The trend of increasing the number of non-coronary interventions is going on, both on the heart (so called structural heart interventions) and peripheral arteries.

The Department continued in the programme of structural cardiac interventions including patent foramen oval closure, atrial septal defect, stenoses and closures of paravalvular leaks. The cardiologists performed some unique combined catheterization interventions for structural heart defects. The total number of catheterizations of the defect of interatrial septum reached 64, making the Department one of the centres with the highest number of these interventions.

The transcatheter aortic valve implantation (TAVI) programme went on also in 2014 with a total number of 19 interventions. This programme is highly complex both as concerns the scope of diagnostic preoperative examinations and interventions, and the demanding multidisciplinary cooperation.

The development of percutaneous coronary intervention with different types of circulatory support continued.

In cooperation with the angiology outpatient department, the Department of Cardiology routinely performs diagnostic examinations and interventions on peripheral arteries.

In 2014, the section of invasive cardiology organised another workshop focused on the use of supporting imaging technologies in catheterization interventions (intravascular ultrasound, fraction flow reserve measuring, optical coherence tomography and near-infrared spectroscopy). The number of participants met the planned capacity.

The Department is involved in preparation of a number of specialised programmes and presentations at conferences and congresses in the Czech Republic.

## NON-INVASIVE CARDIOLOGY

### Cardiology outpatient department

Since 1 April 2014, the senior physician of non-invasive cardiology section has been Filip Málek, MD.

As compared to 2012, the total number of all interventions performed in the outpatient department slightly increased (from 40,198 to 40,270).

In 2014, the non-invasive cardiology section acquired a new device for spiroergometry.

### Echocardiography

In 2014, the echocardiography laboratory performed for the first time more than 1,000 examinations of oesophagus and the number of general examinations also increased.

In the last year, an echocardiographic device Vivid9 GE of the highest standard was purchased, with a focus on functional diagnosis and three-dimensional transthoracic and oesophageal imaging.

A unique intercom system between the ward and theatres was put into operation at the end of the year. It facilitates and makes more efficient the communication between operating theatres, theatres for minor interventions and individual wards.

## INTERVENTION CARDIOLOGY

Diagnostic catheterisation	3226
Ventriculography	515
Bilateral cardiac catheterisation	170
Percutaneous Coronary Interventions (PCI)	981
Primary PCI (in acute myocardial infarction)	218
Number of stents	1364
Fraction flow reserve	247
Intravascular ultrasound	64
DSS/PFO occlusion	64
TAVI	19



## MULTIFUNCTIONAL CATHETERISATION UNIT:

<b>ICD:</b>	
Total:	516
Primary implantation:	326
Replacements:	190
Biventricular ICD (CRT):	223
Subcutaneous ICD:	19
<b>PACEMAKERS:</b>	
Total:	695
Primary implantations 381, replacements	314
Leadless stimulation total:	66
Nanostim:	37
Micra:	29
Barostimulator:	1

<b>EXTRACTION:</b>	
Reveal implantation:	38

<b>CATHETER ABLATION</b>	
Total:	955
Atrial fibrillation (AF) total:	476
Paroxysmal AF:	309
Persistent AF:	149
Non-selective RFA - atrioventricular node:	18
Atrial tachycardia:	55
Atrial flutter:	85
Ventricular tachycardia total:	115
Idiopathic:	55
Structural:	60
AVNRT:	121
WPW syndrome:	40
Ablation of renal arteries:	24
Left atrial appendage occlusion:	22

## CORONARY UNIT

<b>Mortality total</b>	6.8%
Acute coronary syndrome	482
STE	218
NSTE	264
Artificial lung ventilation	119
Cardiac arrest	52
Hospital mortality rate	30.7%
ECMO	12
Mortality	58.3%
Electrical cardioversion	424

## ANTIARRHYTHMIC UNIT

El. cardioversions	132
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## NON-INVASIVE CARDIOLOGY

<b>General outpatient department</b>	
Angiology	6355
Stimulation outpatient department	6575
Transthoracic echocardiography	7682
Oesophageal echocardiography	1092
Dobutamine stress test	7
Outpatient Monitoring; Holter ECG + Recollect + Loop monitor + Omron ECG	2129
Blood pressure monitoring	870
ECG stress test	838
Tilt test	56
Anticoagulation - outpatients	3666

		2014		
PERIOD				SUM TOTAL
Number of beds	standard	30		52
	intermediate	4		
	intensive	18		
		FTE	Physical persons	
Number	of doctors	28,98	35	
	of general nursing staff	116,28	122	
Number	of outpatient examinations	43 541		
Number of admissions	standard	3 324		5 044
	intensive	2 527		
Number of treatment days	standard	9 073		14 381
	intensive	5 288		
Bed occupancy rate (%)	standard	74,29		76,78
	intensive	81,49		
Average length of stay (days)	standard	2,74		2,85
	intensive	2,09		

## ■ DEPARTMENT OF VASCULAR SURGERY

**Head of the Department: Assoc. Prof. Petr Štádl, MD, PhD**

### ACTIVITIES OF THE DEPARTMENT

- Comprehensive surgical treatment of diseases of the vascular system, primarily the narrowing or occlusion of blood vessels caused by atherosclerotic changes, and also injuries of the arteriovenous system except for the coronary arteries, ascending aorta and the aortic arc. Focus on classical surgery in the region of the thoracoabdominal aorta and on new trends and technologies in vascular surgery (mini-invasive approaches, endovascular treatment, robot-assisted surgery).
- Since the beginning of 2009, the Department has been performing also mini-invasive operations of varicose veins by the radiofrequency method that reduces postoperative pain and facilitates early return to daily routine activities.

- Outpatient care and follow-up of patients after vascular surgery and patients indicated for conservative treatment.
- Undergraduate courses (1st Faculty of Medicine, Charles University)
- Courses for students of 2nd year of 3rd Faculty of Medicine, Charles University, specialised in “general nursing care”
- Postgraduate courses (vascular and robot-assisted surgery)
- International training centre for robot-assisted vascular surgery
- National training centre for radiofrequency treatment of varicose veins of limbs
- Publication activity and lectures

### ORGANISATIONAL UNITS OF THE DEPARTMENT

- Outpatient department . . . 6th floor . . . . . 5 examination rooms  
. . . . . 6th floor (unit A) . . . 1 examination room
  - Standard ward (B). . . . . 6th floor . . . . . 17 beds
  - Standard septic ward (A) . . 6th floor . . . . . 19 beds
  - Intermediate care unit . . . 6th floor . . . . . 13 beds
  - Intensive care unit . . . . . 6th floor . . . . . 5 beds
  - Intensive care unit . . . . . 2nd floor . . . . . 7 beds
- The Department has at its disposal 2 operating theatres daily and one operating theatre for robot-assisted operations and radiological examinations 1-2 days a week. The Department provides 24-hour emergency surgical care for all acute vascular conditions and consultancy in complex aortic surgery procedures also for other regions.

### BASIC DATA

- Department staff
  - number of doctors . . . . . 17
  - number of general nursing staff . . . . . 116
  - number of paramedical staff . . . . . 23
  - non-medical staff . . . . . 1
  - technical-administration staff . . . . . 4
- Number of beds
  - standard care . . . . . 36
  - intermediate care . . . . . 13
  - intensive care . . . . . 12

- Number of admissions: ..... 2501
- Number of inpatients: ..... 1858
- Bed occupancy rate: ..... 78.52%
- Average treatment period (days): ..... 6.65
- Number of treatment days: ..... 16733
- Mortality: ..... 1.16%

### PERFORMANCE OVERVIEW – INPATIENT ADMISSIONS

Total number of surgical interventions in 2014 – 1797 – increase by almost 200 operations

#### MAJOR TYPES OF OPERATIONS:

<b>Thoracic aneurysm:</b>	1. classical ..... 18
	2. stentgraft ..... 16
<b>Abdominal aneurysm:</b>	1. classical ..... 101
	2. stentgraft ..... 51
Aneurysm of pelvic arteries: ..... 0	
Aneurysm of popliteal artery: ..... 9	
Aortofemoral reconstructions: ..... 75	
Pelvic reconstructions: ..... 23	
Extra-anatomic reconstructions in aortoiliac area: ..... 28	
Treatment of infection of vascular prosthesis: ..... 12	
Operations on branches of aortic arch: ..... 222	
a) carotid endarterectomy ..... 213	
b) glomus tumour ..... 3	
c) carotid aneurysm ..... 0	
d) bypass or implantation carotid/subclavian ..... 6	
e) bypass from the ascending aorta (sternotomy) ..... 0	
Femoropopliteal proximal reconstructions: ..... 85	
Reconstruction of arteries in groin: ..... 53	
Total varicose reconstructions: ..... 163	
Operations on varicose veins: ..... 378	
Classic ..... 285	
Radiofrequency ..... 93	
AV shunts ..... 31	
Transplantation of vascular allografts ..... 12	

### MINI-INVASIVE OPERATIONS

<b>Robot-assisted: ..... 27</b>	
abdominal aortic aneurysm ..... 3	
aortobifemoral reconstruction ..... 13	
aortofemoral unilateral ..... 7	
endoleak ..... 1	
celiac trunk deliberation ..... 2	
splenic artery aneurysm ..... 1	

#### Laparoscopic operations: ..... 13

iliacofemoral ..... 5	
aortobifemoral ..... 6	
aortofemoral ..... 2	
Thoracic sympathectomy by thoracoscopic method: ..... 14	
Lumbar sympathectomy by laparoscopic method: ..... 5	
Endoscopic sampling of VSM for reconstruction: ..... 4	
Vascular intervention in collaboration with radiologists: ..... 325	

### PERFORMANCE OVERVIEW – OUTPATIENT DEPARTMENT

Number of outpatient examinations:  
(number of examined patients) ..... 13752

### DEPARTMENT OPERATION IN 2014

Since January 2008, the Department of Vascular Surgery has been managed by Assoc. Prof. Petr Štádl, MD, PhD, who is also a member of the external educational staff of 1st Faculty of Medicine, Charles University, with which the Department actively cooperates.

Also in 2014, the Department of Vascular Surgery performed routinely comprehensive diagnostics and surgical treatment of diseases of the vascular system, primarily the narrowing or occlusion of blood vessels caused by atherosclerotic changes, and also of injuries to the arteriovenous system except for the coronary arteries, ascending aorta and the aortic arc 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, opera-

tions 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. Mini-invasive approaches are used in thoracoscopic or laparoscopic lumbar sympathectomies, 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 particularly the robot-assisted and laparoscopic vascular surgery (the declining trend of robot-assisted operations was successfully reversed despite the restrictive policy of the Ministry of Health CR, thanks to the improving communication with some health insurance companies).

The Department of Vascular Surgery keeps its unique position of a world leader in the robot-assisted vascular surgery and of a national leader in thoracoabdominal aorta surgery. In January 2014, Assoc. Prof. P. Štádlér was appointed Vice-Chairman of the Czech Society for Cardiovascular Surgery. In September 2014, he was awarded the Prize of Paul A. Wetter in the USA, for the best foreign presentation on robot-assisted vascular surgery within the Congress MIS Week 2014 and SLS Annual Meeting and Endo Expo. In October 2014, he received the Prize of the Czech Society for Cardiovascular Surgery for the best monograph (Mini-invasive approaches in vascular surgery).

Another important area of the Department is endovascular surgery which specialises in the implantation of stent grafts for the treatment of abdominal aneurysms and those of the thoracic aorta. Implantation of stent grafts, intraoperative angioplasties, is routinely carried out in collaboration with the Department of Radiodiagnostics in Na Homolce Hospital. A specialised team of surgeons and radiologists has been established for this purpose.

In March 2014, the Department of Vascular Surgery organised a vascular surgery course in the premises of the Czech Medical Chamber, where it presented the current trends in this surgical discipline.

In March 2014, another successful workshop was organised on radiofrequency treatment of varicose veins of lower limbs for doctors from the Czech Republic and Slovakia, headed by M. Šlais, MD.

P. Šedivý, MD, PhD in cooperation with the Department of Radiodiagnostics successfully implanted a new type of stentgraft NELLIS.

The Department of Vascular Surgery also performs complicated interventions to treat infections of vascular prostheses by transplantation of vascular allografts. Na Homolce Hospital is together with IKEM, the General Teaching Hospital Prague and the Tissue Bank at FN Hradec Králové a member of a programme for cryopreservation of vascular grafts. A number of centres in the Czech Republic take advantage of the Department of Vascular Surgery in Na Homolce Hospital as a consultancy centre for treatment of a range of serious vascular problems.

L. Dvořáček, MD continued his postgraduate studies at the Faculty of Medicine, Charles University, in Hradec Králové. Involved in postgraduate studies was also M. Šlais, MD.

In November 2014, another successful course was organised in the Department of Vascular Surgery of the Na Homolce Hospital for doctors from Bosna and Herzegovina.

## OUTLOOK FOR THE NEXT YEAR

In 2015, the Department of Vascular Surgery will continue in comprehensive diagnostics and surgical treatment of diseases of the vascular system in the whole range, with a focus on the latest trends. It plans to cooperate with the Department of Cardiac Surgery in addressing vascular conditions falling into both these specialisations, to develop further thoracoabdominal aorta surgery, mini-invasive approaches in operations with a focus on robot-assisted and endovascular surgery. Development of robot-assisted vascular surgery will be the subject of negotiations with the Ministry of Health CR and the General Health Insurance Company.

In December 2014, the Department of Vascular Surgery installed a new 3D laparoscopy tower that significantly improves mini-invasive surgery.

Based on agreement with Head of the Department of Radiology, Professor Vymazal, the successful cooperation of surgeons and radiologists in the field of endovascular surgery will continue. In addition the Department of Vascular Surgery will continue to deal with infections of vascular prostheses, the incidence of which grows na-

tionwide. These interventions are economically highly demanding and the Department still does not have a septic operating theatre for this purpose.

A hybrid operating theatre for endovascular surgery, hybrid interventions and thoracoabdominal aorta surgery should be opened shortly. Of great importance is also the focus of the Department on the latest trends in the field of mini-invasive approaches in arteriovenous surgery.

### EDUCATIONAL AND OTHER SPECIALISED ACTIVITIES

The Department of Vascular Surgery is also involved in undergraduate training of students of the faculty of medicine and postgraduate studies of doctors for the postgraduate certificate in vascular surgery, as well as of doctors whose specialisation requires a study stay in the Department of Vascular Surgery. Head of the Department Assoc. Prof. P. Štádlér, MD, PhD is an external teacher and a member of the Board for Postgraduate Certificate in Vascular Surgery at 1st Faculty of Medicine, Charles University in Prague. He also works as an instructor for robot-assisted vascular surgery at EITS (European Institute of Telesurgery) in Strasbourg and as an expert for the company Intuitive Surgical in USA. In addition he is a chairman of the MIRA subcommittee for robot-assisted vascular surgery in Los Angeles, USA, vice-chairman of the Board of the Czech Society of Cardiovascular Surgery and a member of the Accreditation Board of the Ministry of Health CR for 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 reviewer of the journal Surgical Laparoscopy Endoscopy & Percutaneous Techniques.

The Department of Vascular Surgery is also involved in undergraduate training of students of 2nd year of 3rd Faculty of Medicine, Charles University in Prague, in the specialisation "general nurse". The Department plans to continue organising courses in robot-assisted surgery, vascular surgery, RFA surgery of varicose veins for both domestic and foreign doctors.

### SELECTED PUBLISHING AND LECTURING ACTIVITIES

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## ■ DEPARTMENT OF CARDIAC SURGERY

**Head of the Department: MUDr. Ivo Skalský, Ph.D., MBA**

### ACTIVITIES OF THE DEPARTMENT

- Comprehensive surgical treatment of heart and intrathoracic great blood vessels
- Follow-up of selected groups of patients in outpatient department prior to and after cardiac surgery

### ORGANISATIONAL UNITS OF THE DEPARTMENT

- Outpatient department: 7th floor, three examination rooms

- standard ward 2nd floor 14 beds
- intermediate care unit 2nd floor 10 beds
- post-op and resuscitation care unit 2nd floor 10 beds
- two operating theatres available 5 days a week and 1 operating theatre available 24 hours for emergency interventions

### BASIC DATA

#### Department staff

- Number of doctors . . . . . 18
- Number of nursing staff . . . . . 96
- Number of paramedical staff . . . . . 11
- Technical-administration staff . . . . . 2

#### Number of beds

- Standard care . . . . . 14
- Intermediate care . . . . . 10
- Resuscitation . . . . . 10
- Total . . . . . 34

- **Number of hospitalised patients** . . . . . 943
- **Bed occupancy rate** . . . . . 81.81%
- **Average treatment period** . . . . . 10.77 days
- **Number of treatment days** . . . . . 10153 (total)

### PERFORMANCE OVERVIEW

#### A/ INPATIENT ADMISSIONS

##### Number of surgical interventions in 2014

- Isolated aortocoronary reconstructions . . . . . 264
- Combined aortocoronary reconstructions (EACI, MAZE etc.) . . . . . 36
- Cardiac valve replacement/plastic surgery . . . . . 485
- Isolated operations on ascending aorta and aortic arch . . . . . 17
- Others (myxoma, pericardectomy, PM extraction) . . . . . 32
- Epicardial stimulator electrode implants . . . . . 9
- **Total** . . . . . **843**

- MAZE operations (combined with ACB and valvular surgery) . . . . . 155
- Thoracic aorta operations total (combined with other interventions) . . . . . 89
- Robot-assisted interventions . . . . . 0

- Acute and emergency operations . . . . .	207
- Planned operations . . . . .	636

### 30-day mortality

- <b>Total . . . . .</b>	<b>2,02% (17/843)</b>
- Acute interventions . . . . .	1,3 %
- Elective operations . . . . .	0,7 %

## B/ OUTPATIENT DEPARTMENT

### Number of outpatient examinations:

- 6465 outpatient examinations

### CHANGES/ NEW EVENTS IN 2014

- In 2014, the Department performed 843 operations which is historically the second highest number of interventions performed by the Department. As a result, it ranks the third or fourth among all cardiac surgery departments in the Czech Republic in the long run.
- The share of valvular surgeries, either isolated or in combination with other interventions, was again very high (57.5%) which proves a clear trend of the Department to focus on this specialisation. The total number of other interventions from the range of operations performed by the Department, be it coronary reconstructions, aortic operations or correction of congenital defects, remains comparable with the previous years.
- As compared to the previous years, the number of combined interventions increased and accounted for almost 40%, primarily due to the increase of acute and emergency surgery that amounted to 1/4 (25%) of all interventions.
- Despite a higher share of acute surgery that is in general associated with a higher risk, the results of operations are still very good. The total annual mortality of 2.02% is markedly lower as compared to the predicted mortality of 6.12% calculated on the basis of the international scoring system EUROSCORE II. Acute surgery accounted for 2/3 of cases in this total mortality.
- The trend of the Department towards the valvular surgery is associated with performance of valvuloplasties, i.e. valve salvation surgery prior to its replacement. This trend went on also in 2014 when the

share of these salvation operations, primarily on the mitral valve, was approximately 75%. It should be noted in this respect that more than 2/3 isolated interventions on the mitral valve were performed from the mini-invasive approach. Thanks to these two aspects, the Department is one of the leading institutions in the Czech cardiac surgery.

- The range of interventions included also operations of congenital defects that last year accounted again for about 10% of all interventions. This specific program with excellent results is systematically implemented in cooperation with the Pediatric Cardiocentre of the Teaching Hospital in Motol, Prague, and is unique both in the Czech Republic and on the European level.
- In 2014, the Department launched several clinical studies, namely the Mitral Bridge study which is implemented solely in the Na Homolce Hospital, and e-Mesh and Bioventrix studies in cooperation with the Department of Cardiology.
- The Department performed and further developed arrhythmologic interventions, particularly cryoablation for atrial fibrillation, cryodestruction of arrhythmogenic left ventricular substrate and epicardial mapping to identify the ideal place for thoracoscopic implantation of a stimulation electrode within resynchronisation therapy in patients with heart failure. Also in this field it cooperates with the Department of Cardiology of the Na Homolce Hospital and the Liberec Hospital.
- In the field of treatment of aortic diseases it collaborates with the Department of Vascular Surgery and Department of Radiology of the Na Homolce Hospital.

### OUTLOOK FOR THE NEXT YEAR

- The plan for 2015 is to perform more than 800 cardiac surgeries in the same range as in the previous year.
- Further development of 3 systematic programmes that are the core activities of the Department, i.e. the programme for treatment of aortic diseases – in cooperation with the Department of Vascular Surgery and Radiology; the programme for surgical treatment of heart valve defects and the programme of treatment of congenital heart defects in adults in cooperation with the Pediatric Cardiocentre of the Motol Teaching Hospital.



- Keeping of the leading position in the Czech Republic in the field of mini-invasive surgery.
- Opening of an operating theatre for robot-assisted surgery that will allow extension of the range of cardiac surgeries and contribute to improvement of the quality of treatment of the patients.

## ■ DEPARTMENT OF CARDIAC ANESTHESIOLOGY

**Head of the Department: Pavel Jehlička, MD, MBA**

The Department of Cardiac Anesthesiology was established on 1 July 2008 by separating from the Department of Cardiac Surgery. It was integrated into the structure of the Cardiocentre of the Na Homolce Hospital. It covers two basic areas, namely anesthesiological care for cardiosurgery and cardiology and also intensive care for the cardiac surgery postoperative unit.

It provides anesthesia care for patients undergoing either cardiac surgery, with or without extracorporeal circulation, or cardiac robot-assisted surgery with a mini-invasive approach. For cardiologic patients it ensures anesthesia in complicated heart mapping in arrhythmology, anesthesia for the extraction of stimulation systems, renal artery ablation in patients with a high blood pressure and for electrical cardioversions.

In the field of intensive care, the department is responsible for operation of the cardiosurgical postoperative unit and closely cooperates also with the cardiosurgical intermediate care unit. Within the Cardiocentre it supports other units of intensive cardiology care. Together with the Department of Cardiology and the Department of Biomedical Engineering it participates in the programme of extracorporeal support of circulation for patients in cardiogenic shock.

In 2004, the doctors of the Department of Cardiac Anesthesiology were the first to introduce extracorporeal pulmonary support in the Czech Republic (artificial lung Novalung) in a patient with a severe pulmonary failure that could not be managed by standard means.

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.

**Number of doctors: 8**

**Number of general nursing staff: 7**

**Anesthesia administration:**

cardiac surgeries: . . . . .	12
cardiological interventions: . . . . .	603
interventions longer than 2h: . . . . .	807
patients above the age of 65: . . . . .	1065

# PROGRAMME OF GENERAL MEDICAL CARE



## ■ DEPARTMENT OF INTERNAL MEDICINE

**Head of the Department: Milan Čech, MD**

### ACTIVITIES OF THE DEPARTMENT

inpatient care  
specialised outpatient care in subspecialties of internal medicine  
Centre for Pulmonary Endoscopy  
Gastroenterology Unit

### ORGANISATIONAL STRUCTURE OF THE DEPARTMENT

Standard ward  
ICU  
policlinics  
gastroenterology  
centre for pulmonary endoscopy  
acute internal medicine  
outpatient department  
outpatient department in Moscow

### BASIC DATA

Number of doctors: 25, including Moscow  
Number of general nursing staff: 54 (-3)  
Number of paramedical staff: 9 (+1)  
Number of standard beds: 21  
Number of ICU beds: 8

### Beds - 2014/2013 comparison:

Bed occupancy rate – standard ward: 89.08 % / 89.98 % (-0.9 %)  
Bed occupancy rate - ICU: 92.64 % / 93.36 % (-1.3 %)  
Average treatment period – standard ward (days): 5.6 / 6.01 (-0.4)  
Average treatment period – ICU (days): 7.2 / 7.66 (-0.4)  
Number of treatment days total: 9244 / 9234 (+10)  
Number of treatment days - ICU: 2416 / 2560 (-144)  
Inpatient admissions: 1286 / 1208 (+82)

### Outpatient department:

Number of internal medicine outpatient examinations: 14278  
Diabetology examinations: 2772  
Functional examination of lungs: 3465  
Flexible and autofluorescence bronchoscopy: 1087  
Gastroenterology examinations (complex, targeted, follow-up): 9111

### Endoscopic interventions:

Gastroscopy 2410  
Colonoscopy (complete + partial) 2910  
Endoscopic ultrasonography 653  
ERCP 427  
Endoscopic papillosphincterotomy 246  
PEG 26

### Total production of the Department:

Production of TISS points: 20 881 179  
Production of the standard ward: 9 161 571  
Production of the gastro section total: 21 258 765  
Total production of points: 63 793 571  
Material accounted for separately: 19 777 140

### PERFORMANCE OVERVIEW

#### INPATIENT CARE

The Department continued to provide essential clinical back-up to the key areas of the Cardiovascular Programme and Neuro-programme in Na Homolce Hospital, namely to the inpatient ward, internal medicine policlinics, department of gastroenterology and to the centre of pulmonary endoscopy. Both inpatient wards treat patients also from other regions. The Department traditionally provides care for patients with short bowel syndrome and ensures their long-term parental nutrition, which includes treatment of the complications (sepsis, thrombosis) that are inevitably connected with this therapy. The department routinely carries out bedside sonography and interventions under ultrasound control (central cannulation, dg/evacuation puncture etc.), and offers consultations concerning the use of bedside US device to other departments of the hospital.

## **ICU**

The Unit has 8 beds with the possibility of up to 4 beds with ventilation to provide a comprehensive intensive care to polymorbid patients, including patients with complicated infections, from other postoperative ICUs of the hospital. Most patients are transferred from the core departments of the Na Homolce Hospital, some of them are referred by acute internal medicine outpatient department and from other hospitals.

## **STANDARD WARD**

For several years now, the standard inpatient ward has been recording a high turnover of inpatients, the capacity is due to the average hospital stay fully used and the bed occupancy rate is the highest in the whole Na Homolce Hospital.

### **THE DEPARTMENT ADMITS TO THE INPATIENT WARD:**

- (a) patients with acute internal diseases referred by the acute internal medicine outpatient department
- (b) patients with planned diagnostic and therapeutic treatment (all subspecialties of internal medicine, oncology)
- (c) patients with acute internal diseases from other departments of the hospital (all departments, particularly acute complications of oncological treatment and chronic hemodialysis programme)
- (d) patients followed-up after invasive surgery (gastroenterology, centre of pulmonary endoscopy, interventional radiology)
- (e) outpatients using home parenteral nutrition, with complications.

In general, the Department provides care also to patients from other regions, depending on the bed capacity, VIP clientele and family members of employees of the Na Homolce Hospital.

Relatively high costs of medical drugs are influenced in the long-term run mainly by antimicrobial treatment and infusion therapy. Doctors in the department are mutually fully substitutable and are supported by doctors from the outpatient department.

## **OUTPATIENT DEPARTMENT**

Doctors of individual specialisations closely cooperate and are mutually well substitutable both in the outpatient and inpatient departments. Part of the outpatient department is a pulmonary, gastroenterology and metabolic unit (focused on home par/enteral nutrition, diabetology, endocrinology, lipid consultancy, obesitology) as well as a preoperative internal medicine unit. The Department cooperates also with nutritional therapists.

## **ACUTE INTERNAL MEDICINE OUTPATIENT DEPARTMENT**

In 2014, the Department treated in total 6,440 patients, i.e. by more than 1,000 examinations as compared to the previous year. In the recent two years the number of treated patients has significantly increased and this trend will most probably continue also in the future in connection with opening of a new underground line to Motol.

The Department provides treatment and examination of patients with acute non-surgical problems who have no special recommendation for a particular specialised examination. Other activities include outpatient infusion therapy and diagnostic and therapeutic interventions.

The Department is equipped with two monitored beds, ECG allowing record archiving, resuscitation equipment and a diagnostic device (Quick Read) for immediate measuring of certain biochemical parameters (e.g. CRP) from capillary blood.

A total of 7 doctors and 2 nurses work in the department during the day and 11 doctors (of which 1 external doctor) and 1 nurse are on duty at night. With the growing number of patients it will be necessary to increase the number of the staff in the acute internal medicine department and improve cooperation with other departments of the hospital, cardiology and neurology in particular.

## **GASTROENTEROLOGY UNIT**

The unit focuses on biological treatment of non-specified inflammatory bowel diseases.

The wide range of routinely used diagnostic and therapeutic endoscopic methods includes also endosonographic techniques with one of the highest standards among other facilities in Prague.

The current state of equipment and spatial arrangement of the gastroenterology unit is inadequate in the long run, in terms of its importance for the hospital and its position within the Prague and even national healthcare system. Therefore it will be necessary to address these drawbacks as the unit is an essential, core and most profitable part of the Department of Internal Medicine of the Na Homolce Hospital.

### **CENTRE OF PULMONARY ENDOSCOPY**

The Centre for Pulmonary Endoscopy offers comprehensive bronchologic diagnostics including autofluorescent bronchoscopy, NBI (Narrow Band Imaging) and endobronchial ultrasonography. The combination of new diagnostic methods with the existing ones, such as PET-CT, provides an exceptional opportunity for early diagnosis and staging of bronchogenic carcinoma followed by pneumo-oncological treatment. Despite an unfavourable prognosis after the leave of the previous pulmonary team two years ago, the Centre succeeded in increasing significantly the numbers of its patients through a systematic cooperation with the field pneumology specialists.

### **EDUCATIONAL AND PUBLICATION ACTIVITIES OF THE DEPARTMENT:**

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

In 2014, the Department was involved in undergraduate training of students of 1st, 2nd and 3rd Faculties of Medicine, Charles University. It organised postgraduate study stays particularly for younger colleagues from other specialisations of the Na Homolce Hospital, as well as postgraduate courses within the Institute of Postgraduate Studies in Healthcare.

M. Čech, MD is a member of the European Resuscitation Council. P. Beneš, MD is a member of the board of the Czech Society for Clinical Nutrition and Intensive Metabolic Care. P. Hrouda, MD and M. Šotola, MD are members of the European Respiratory Society. Doctors of the Department actively participated in domestic and international congresses and were involved in the courses within the Institute of Postgraduate Studies in Healthcare.

## **■ DEPARTMENT OF CLINICAL ONCOLOGY**

**Senior Physician Martin Šafanda, MD**

The Department of Oncology specialises in the treatment of malignant tumours in adult patients.

### **The oncological programme consists of 4 key areas:**

- I. Gastroenterological programme
  - II. Mammological programme
  - III. Urogynecological programme
  - IV. Pneumo-oncological programme
- 
- I: Tumours of small and large intestine  
Stomach and oesophageal tumours  
Pancreatic tumours  
Liver and bile duct tumours
  - II: Breast tumours
  - III: Prostate tumours  
Kidney tumours  
Urinary bladder tumours  
Ovarian tumours
  - IV: Pulmonary and bronchial tumours

The Department closely cooperates with the Comprehensive Centre of Oncology in the Motol Teaching Hospital in Prague. Irradiation therapy is carried out in the cooperating facility. In the absence of inpatient ward, the acute care, including ICU care, is ensured by the Department of Internal Medicine of the 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 multicentric randomized studies of phase II and III. Due to the development of tumour epidemiology in the Czech population, annual growth of 5-7% cases may be expected also in future.

Number of doctors: 4  
Number of general nursing staff: 5  
Number of newly admitted patients: 611  
Number of outpatient examinations: 14 100  
Number of chemotherapies: 10 020

## ■ DEPARTMENT OF GENERAL SURGERY

**Head of the Department: Stanislav Černohorský, MD**

### ACTIVITIES OF THE DEPARTMENT

The Department carries out the clinical programme of general medical care of the hospital, including diagnostic and therapeutic activities in the field of both outpatient and inpatient (including ICU) care for the field of general surgery, orthopedic surgery and urology. The Department of General Surgery treats both domestic and foreign patients as well as clients of the HPC preventive programme, provides consulting services for the hospital and organises undergraduate and postgraduate courses for doctors.

#### General surgery:

- abdominal and thoracic surgery (gastrointestinal tract surgery), lung surgery, thyroid surgery, hernia surgery, varicose vein surgery, breast surgery and others
- mini-invasive surgery in almost all fields of laparoscopic interventions (including common hernia, appendectomy, cholecystectomy, diaphragmatic hernia, laparoscopic surgery of the large intestine)
- bariatric surgery (surgical treatment of morbid obesity), mainly gastric bypass, gastric sleeve resection
- oncological surgery in cooperation with the unit of gastroenterology of the Department of Internal Medicine and oncologist, particularly oncological surgery of the gastrointestinal tract and mammology
- extensive outpatient surgery for both general and specialised consultancy units
- minor outpatient interventions

#### Orthopedic surgery:

- total replacement of the hip and knee joints, including reimplantations, replacement of the shoulder, ankle and the first metatarsophalangeal joint (using the Swanson endoprosthesis)
- osteotomy with the Stoffel method of metal-plate fixation in surgery of the foot - hallux rigidus; the use of bone banks extended the range of orthopedic and mini-invasive surgical interventions
- extensive outpatient orthopedic treatment
- arthroscopy (mainly of the knee and shoulder joints)

#### Urology:

- open, endoscopic and robot-assisted urinary tract surgery
- urology oncological surgery
- kidney surgery
- mini-invasive laparoscopic, cystoscopic and ureterorenoscopic surgical procedures
- ultrasound-controlled puncture of the retroperitoneum
- comprehensive diagnostics and treatment of erectile dysfunctions
- a wide-range outpatient urology treatment
- sexuology outpatient department
- radiological procedures

### ORGANISATIONAL UNITS OF THE DEPARTMENT

#### INPATIENT WARD, 5th floor

In addition to surgery, the Department has two other units

- urological (senior physician Oto Köhler, MD, PhD)
- orthopedic (senior physician Alois Kapounek, MD )
- 24 doctors – 15 surgeons, 4 urologists, 4 orthopedic surgeons, 1 internal medicine doctor and 1 intensive care doctor

It provides diagnostics, preoperative and postoperative care to all patients in all specialisations of the Department of General Surgery, in intensive (2 wards), intermediate and standard wards.

#### INTENSIVE CARE UNIT, A + B UNITS, 5th floor

J. Červinka, MD, O. Köhler, MD, PhD, A. Kapounek, MD, M. Pazdera, MD, S. Černohorský, MD, J. Valdman, MD, M. Matoušek, MD, J. Tobiáš, MD

It provides intensive postoperative care to patients of the Department of General Surgery, with severe diseases, complicated and life threatening conditions.

#### **OUTPATIENT DEPARTMENT**, 4th floor

##### **Outpatient surgery:**

M. Trávník, MD, D. Bajerová, MD, J. Tobiáš, MD, J. Chrobok, MD  
- doctors available according to the needs of the outpatient department and the doctor on duty in emergency service

It provides daily acute surgical care to unscheduled patients, including wound dressing changes in patients from other departments of the hospital and 24-hour acute surgical care.

##### **Surgical consulting clinic:**

Michal Toběrný, MD, MBA	František Fidler, MD, PhD
Stanislav Černohorský, MD	Milan Pazdera, MD
Pavel Beňo, MD	Miloslav Matoušek, MD
Slavomír Blažej, MD	Jiří Valdman, MD

Consulting clinic for surgical diseases focuses on abdominal and thoracic surgery, coloprocto-surgery, oncological surgery, diagnostics, postoperative monitoring, follow-up, assessment and ordering of planned operations.

##### **Phlebology consulting clinic:** M. Trávník, MD

It provides examinations, comprehensive diagnostic services, preoperative evaluation and follow-up care to patients with breast disease in close cooperation with radiologists, oncologists and pathologists.

##### **Mammology consulting clinic:**

Z. Burianová, MD, D. Bajerová (E. Abtová, MD – radiology, Head M. Šafanda, MD – oncology, Assoc. Prof. J. Marek, MD – pathology)

It provides examinations, comprehensive diagnostic services, preoperative evaluation and follow-up care to patients with breast disease in close cooperation with radiologists, oncologists and pathologists.

##### **Bariatric consulting clinic:**

- P. Beňo, MD, J. Tobiáš, MD

It provides preoperative assessment and postoperative follow-up in cooperation with the Obesity Centre of the Na Homolce Hospital.

##### **Orthopedic outpatient department:**

- A. Kapounek, MD  
- P. Závitkovský, MD  
- T. Kasal, MD  
- I. Čechová, MD (0.6 FTE)

It provides diagnostic, elective treatment and preoperative assessment of trauma patients with musculoskeletal diseases, as well as consultancy services to other departments of the hospital.

##### **Urology clinic:**

- O. Köhler, MD, PhD  
- M. Bartůněk, MD  
- O. Kaplan, MD  
- J. Poněšický, MD, FEBU (contract of service)

It provides care to urological patients, diagnostics (including ultrasound) and outpatient treatment, preoperative evaluation, postoperative monitoring, as well as comprehensive diagnostics and treatment of erectile dysfunction and a number of outpatient diagnostic and therapeutic procedures (cystoscopy, ureter probing also for other departments etc.).

##### **Internal outpatient surgery:**

- J. Červinka, MD

It provides internal preoperative examination and monitoring of seriously ill surgical patients before surgical procedures, and follow-up in certain selected diseases.

### Outpatient department for minor surgical procedures:

- Doctors available according to the needs of the outpatient department

It performs minor outpatient surgical procedures under local anesthesia at the request of general practitioners and dermatologists, and in indicated patients from the surgical consulting clinic and outpatient surgery.

### OPERATING THEATRES

1. operating theatre – 4th floor - “super-sterile” for orthopedic surgery
2. and 3. operating theatres – 4th floor - for other operations, both open and laparoscopic;
- robotic operating theatre with Da Vinci Surgical System – 7th floor  
- used twice a week

### BASIC DATA

#### Number of doctors:

- 24 doctors – 15 surgeons, 4 urologists, 4 orthopedic surgeons, 1 internal medicine doctor and 1 intensive care doctor

#### Number of general nursing staff:

- wards and ICU: 39 general nursing staff, 4 non-medical staff, 2 assistants
- outpatient departments: 11 general nursing staff, 1 non-medical staff
- operating theatres: 11 general nursing staff, 6 non-medical staff

#### Number of beds:

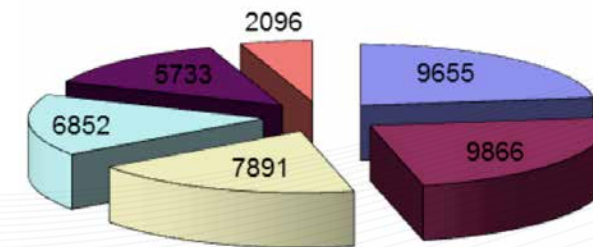
- standard care: 16
  - intensive care: 9
  - intermediate care: 6
- total: 31

Bed occupancy rate: 94.56 %  
Average treatment period: 3.96  
Number of treatment days: 9.691  
Number of inpatients: 2.450  
Mortality: 1

### Number of outpatient examinations:

CSurgery	targeted:	9.655	of this excision 393
	follow-up:	9.866	
Orthopedic surgery	targeted:	7.891	
	follow-up:	6.852	
Urology	targeted:	5.733	
	follow-up:	2.096	

**Total: 42.093**



- Surgery - targeted
- Surgery - follow-up
- Orthopedics - targeted
- Orthopedics - follow-up
- Urology - targeted
- Urology - follow-up

### Inpatient admissions by diagnosis groups:

Neoplasms	497
Benign tumours	95
Morbid obesity	9
Gastrointestinal diseases	976
Urological diseases	155
Orthopedic diseases	601
Other diseases	117



## CHANGES/ NEW EVENTS IN 2014

### Personnel changes:

New members of the Department include Ondřej Kaplan, MD – urology (from 10 March 2014); assistant Martina Zázvorková (from 1 March 2014); Petr Chmátal, MD, MBA, PhD - surgery (contract of service) (from 1 May 2014); and Jaroslav Verner, MD (0.8 FTE) – surgery (from 1 June 2014)

### Technical equipment:

- hardware upgrade and fine-tuning of the software of the computer network in order to improve the quality of patients' medical records, organisation of admissions and discharges, keeping of surgical records and operation of outpatient departments.
- improvement of electronic ordering of patients in outpatient departments
- the use of electronic requests for material accounted for separately for health insurance companies
- reconstruction of the floor of the outpatient department premises – completion

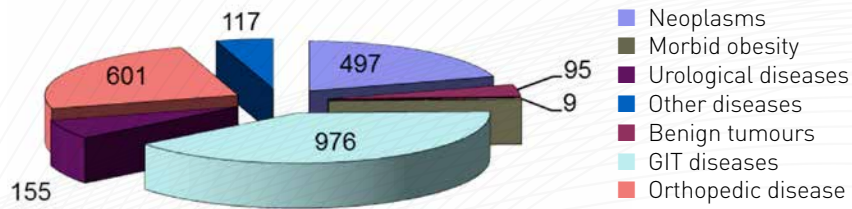
### Surgical methods:

#### Orthopedics:

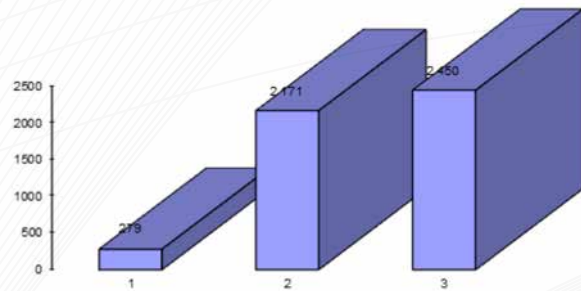
- Stoffel osteotomy for hallux valgus as a routine procedure
- Swanson endoprosthesis Neuflex in hallux rigidus as a routine procedure
- routine use of orthopedic navigation system in great joint surgery
- arthroscopy (mainly treatment of the knee joint and ligamentoplasty of cruciate ligaments)

#### Surgery:

- Intensive focus on development of thoracic surgery and thoracoscopic interventions, ongoing cooperation with the hospital in Liberec and the General Teaching Hospital Prague (Ist Clinic of Surgery) in the field of lung surgery.
- Routinely performed laparoscopic bariatric surgery for morbid obesity in the whole range of interventions. Change in the obesitology team (department of internal medicine, gastroenterology, psychologist).

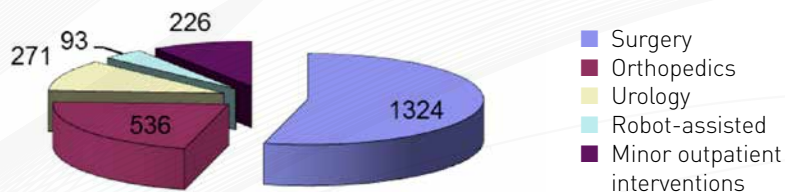


Emergency admissions	279
Planned admissions	2 171
<b>Total</b>	<b>2 450</b>



### Number of operations:

Surgical	1324
Orthopedic	536
Urological	271
Robot-assisted:	93
Minor outpatient interventions	226
<b>Total</b>	<b>2450</b>



- Routinely performed procedures for anal prolapses and haemorrhoids using the Long method (PPH).
- Further development of laparoscopic colorectal and GIT surgery.
- Robot-assisted interventions were permitted by health insurance companies only for urological interventions, bariatric robot-assisted procedures were eliminated.

### **Urology:**

- endoscopic urethrotomy as a routine procedure
- introduction of laparoscopic procedure in kidney surgery (pyeloplasty)
- routinely performed ureterorenoscopy
- routinely performed robot-assisted procedures, particularly radical prostatectomy, pyeloplasty, kidney resection.

### **EVALUATION OF CLINICAL ACTIVITIES**

- The Department concentrates on comprehensive development of general surgery, orthopedics and urology with a focus on elective interventions; and plans further development of laparoscopic procedures in colorectal surgery and thoracoscopic interventions
- Cooperation is being developed with the Department of Internal Medicine, Radiology and Oncology as well as with other departments of the hospital
- Operating theatres on 4th floor are used for surgical treatment of the most severe surgical conditions (including acute interventions)
- The Department was actively involved in development of recommended accreditation standards and optimization of postoperative pain treatment.
- Patient satisfaction was continuously assessed in the Department and the outputs were used for further improvement; high hygiene standards are continuously monitored in all premises in cooperation with the microbiological department and the team responsible for infection prevention; no increase was recorded in the incidence of complications or nosocomial infections.

### **OUTLOOK FOR THE NEXT YEAR**

- Due to a significant increase of the number of oncological patients in the Czech Republic, particularly in the colorectal field, activities of the Department will focus within the comprehensive therapy on the latest surgical procedures using mini-invasive, laparoscopic approach and robot-assisted methods, as well as on radiofrequency ablation to treat liver metastases and methods of radical lymphadenectomy. Patients indicated for liver resection will be referred to specialised centres.
- Lung surgery will be further developed in cooperation with the hospital in Liberec.
- In the field of thoracic surgery, the Department will continue to cooperate with 1st Department of Surgery of the General Teaching Hospital, Charles University.
- Increased efforts will concentrate on the publishing activities and presentation of lectures.
- The information system of the Department will be further developed in coordination with the hospital information system.

### **EDUCATIONAL AND R&D ACTIVITIES**

According to the plan of the faculties of medicine, the Department was involved in **undergraduate** study of 14 medical students (4th and 5th year of study) from 1st, 2nd and 3rd Faculty of Medicine, Charles University.

Within **postgraduate** studies, 3 doctors from our hospital and other hospitals completed study stays for Postgraduate Certificate according to the plan of the Institute of Postgraduate Studies in Healthcare.

Slavomír Blažej, MD continues his PhD studies in the Teaching Hospital in Hradec Králové.

Jan Tobiáš, MD continues his study for Postgraduate Certificate according to the plan of the Institute of Postgraduate Studies in Healthcare.

### **Training events in our Department:**

- workshops conducted by doctors of the Department both for other doctors and nurses, according to the plan
- participation in the hospital workshops
- common indication sessions with oncologists regularly on Wednesdays and Thursdays
- joint clinical-pathological sessions in cooperation with the Department of Pathology (Head of Department M. Syrůček, MD and Assoc. Prof. J. Marek, MD, PhD) held within close cooperation almost every day

### **Specialised activities:**

- Doctors of the Department participated actively in several domestic and international congresses and workshops. Emphasis is put on mini-invasive surgical approaches and robot-assisted methods in surgery and urology.

### **Courses and training for nurses:**

- Nurses from the whole Department participated both actively and passively in a number of courses and presentations aimed at improvement of their knowledge and skills.
- Within the care for stoma patients, emphasis was put on training of nurses in stoma care. Stoma consulting centre was opened. Two nurses who completed training in stoma care were included in the stoma care team which now totals 3 stoma care nurses who provide consultations to the whole hospital.
- Three nurses completed their qualification upgrade course in anesthesiology, resuscitation and intensive care and another 3 nurses take these courses
- The nurse in charge of patient education cooperates with the Department of Quality with the aim to improve communication with patients
- Hana Lukášková, Václava Hreusová and Miroslava Zázvorková completed their university studies in management and human resources management
- Krystýna Korytenská completed her university studies in nursing and Jana Mixová and Iva Jirmusová continue to study this specialisation

- D. Bajerová, MD is involved in training of nurses in the acute and chronic wound care within the whole Department.

### **Membership of professional societies:**

- The Czech Medical Association of J.E. Purkyně
- The Czech Society of Hepatobiliary Surgery
- The Czech Surgical Society
- The Czech Society for Endoscopy
- The Section of Endoscopic and Mini-Invasive Surgery of the Czech Surgical Society
- The Section of Bariatric Surgery of The Czech Society for Obesity
- The Czech Society for Obesity
- The Czech Society of Coloproctology
- The Czech Society of Gastroenterology
- The Czech Orthopedic Society
- The Section of Thoracic Surgery of the Czech Society for Pneumology
- The Czech Transplant Society
- The Society of Cardiology
- 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 MINI-INVASIVE SURGERY

**Head of the Department: Petr Popelka, MD**

The activity of the Department focuses on the diagnosis and surgical treatment of gynecological diseases, with emphasis on mini-invasive approaches. The complete range of pelvic surgery was similarly as in the previous years concentrated in four clinical programmes, namely oncogynecological, urogynecological programmes, comprehensive treatment of endometriosis and general gynecological surgery. The Department has a specialised consulting centre on each programme.

**Oncogynecological programme** includes classic laparoscopies and laparoscopically assisted and laparovaginal surgery for tumours of the cervix, ovaries, endometrium and vulva and follow-up postoperative care for surgical patients and those treated for cancer in a special consulting centre.

The latest surgical approaches and technologies that the Department has at its disposal significantly increase the accuracy and efficiency of oncolaparoscopic surgery.

The total number of oncology surgeries for a gynecological carcinoma amounted in 2014 to 53 interventions, of which 16 were radical.

In 2014, a total of 215 precancerous cervical conditions were identified within screening for malignant neoplasms of cervix.

**Urogynecologic programme** covers both diagnostics, surgical and conservative treatment of incontinence and pelvic floor disorders.

Surgical procedures include the latest trends using special reticulate implants (nets) and put emphasis on the comprehensive treatment of a given problem while observing the rules of minimally invasive interventions.

In total 425 female patients with the above problems were operated, of these with the use of implants in 89 interventions.

**The Programme for comprehensive diagnostics and endometriosis surgery** offers comprehensive treatment to patients from the Czech Republic including radical laparoscopic surgery, predictive histologi-

cal diagnosis of growth factors and follow-up hormonal therapy with final verification of the outcome. The Department of Gynecology in Na Homolce Hospital is one of the most experienced centres in the Czech Republic in performing radical operations of retroperitoneal endometriosis. In 2014, the department carried out 18 interventions for retroperitoneal endometriosis.

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

In 2014, a total of 1,711 female patients were admitted for treatment to the Department. The total number of surgical interventions in 2014 amounted to 1,690 operations, of which 88%, including oncological interventions, were performed by mini-invasive methods.

### Základní údaje:

Number of beds	26
- standard	20
- intensive	6
Number of doctors	7
Number of nursing staff	23
Number of outpatient examinations	15823
Number of admissions	1711
Number of treatment days	4307
Number of surgical interventions	1690
Bed occupancy rate	60,10%
Average treatment period (days)	2,52

## ■ DEPARTMENT OF ENT / HEAD AND NECK SURGERY

Head of the Department: Petr Jiráč, MD

### ACTIVITIES OF THE DEPARTMENT:

The Department specialises in diagnostics and conservative and surgical treatment of the ear, nose and throat. The surgical procedures carried out in 2014 covered a whole range of head and neck surgery focused on the nose and paranasal cavities including endoscopic interventions, comprehensive surgery of the thyroid, cophosurgical interventions, microsurgery of the larynx and also corrective operations in the area of head and neck, operations on the soft tissues of the head and neck, surgery for injuries of facial bones and comprehensive ENT oncology. Surgery of the base of the skull has been developed in collaboration with the Department of Neurosurgery.

The Department cooperates with neurologists in the treatment of balance disorders, and has at its disposal the Leksell gamma knife for the treatment of auditory nerve tumours. In cooperation with oral surgeons and neurosurgeons it performs demanding operations of the facial skeleton and skull base. Good cooperation was also established with experts in allergy and immunology - especially when dealing with chronic rhinitis or chronic sinusitis. One of the key areas is treatment of patients with cancer where in collaboration with oncologists, the Department provides a detailed diagnosis, surgical treatment and follow-up care. The Department also closely cooperates with the Department of Nuclear Medicine and Endocrinology of the Teaching Hospital, Charles University, Motol in the follow-up care for patients with thyroid diseases.

The Programme of temporomandibular joint treatment continued also in 2014 with regular articular operations of outpatients. The treatment of diseases of the temporomandibular joint was mainly conservative and mini-invasive (arthrocentesis under local anaesthesia and arthroscopic surgery).

Surgical treatment of ronchopathy and sleep apnea syndrome is also performed with the use of radiofrequency method that reduces the time to heal and postoperative discomfort of patients. The success rate of the treatment is regularly monitored by feedback from patients obtained through questionnaires.

In the field of thyroid surgery the department keeps up with international trends and uses mini-invasive procedure to remove thyroid tissue by the MIVAT method. It carries out the whole range of operations, starting from partial up to extensive interventions including removal of the entire gland as well as providing comprehensive post-operative care in cooperation with endocrinologists.

In 2014, the outpatient department provided comprehensive services including specialised consultancies in oncology, otoneurology, cophosurgery and otoprothetics, outpatient interventions for rhinopathy, thyroid, corrective surgery of nose, phoniatriy, and a specialised unit for joints and salivary glands with endoscopic technique for diagnosis and treatment of salivary gland ducts. The outpatient centre for sleep and snoring disorders extended its activities mainly in collaboration with the Department of Neurology and the Laboratory for Sleep Disorders. The department also has a pediatric practice. The department continued to develop an aesthetic programme, which primarily includes procedures on auricles, external nose, and laser operations.

The relatively recent diagnostic method NBI (narrow band imaging) allows, both in the outpatient mode and within surgeries under general anaesthesia, an earlier and more precise diagnosis of early stages of serious diseases of ENT mucosa, particularly vocal cord disorders.

### BASIC DATA:

Number of beds. . . . .	11
standard. . . . .	8
intensive. . . . .	3
Number of doctors (as of 31. 12. 2014) . . . . .	10
Number of general nursing staff. . . . .	20
Number of outpatient examinations . . . . .	8547
Number of consultations . . . . .	1612
Number of admissions . . . . .	1240
Number of treatment days	
- standard. . . . .	1,2
- intensive. . . . .	1,0
Average treatment period (days)	
- standard. . . . .	2.5
- intensive. . . . .	1.0

## NUMBER OF SURGICAL INTERVENTIONS:

Operations under local anesthesia . . . . .	538
Operations under general anesthesia. . . . .	886
FESS operations . . . . .	160
Operations of thyroid gland . . . . .	170
MLS. . . . .	100
Oncological diagnosis . . . . .	94
NBI . . . . .	146

## OUTLOOK FOR THE NEXT YEAR

In 2015, the Head of the Department of ENT / Head and Neck Surgery will be Petr Jirák, MD, who replaced in this position Professor Jaromír Astl, MD, PhD.

The aim of the Department is to improve further the professional standard and quality of the provided health care, with emphasis on interventions with shorter hospital stays.

The Department will also focus on improvement of quality and extension of the programme of functional-corrective surgery, ronochothy and further development of thyroid surgery. Within the neuroprogramme, cooperation will continue with the Department of Neurosurgery, particularly as concerns the skull base surgery.

Within the cardioprogramme, the Department will continue to be involved in preparation of patients for cardiac and vascular surgery.

As every year, the Department will organise also in 2015 a workshop on thyroid disorders, with a focus on operative techniques and thyroid surgery, this year for the first time in cooperation with the Teaching Hospital in Plzeň.

## EDUCATIONAL ACTIVITY

Undergraduate studies: 3rd Faculty of Medicine, Charles University, Faculty of Education, Charles University, P. Janoušek, MD

## PUBLICATIONS:

JIRÁK, P. - KOCUM, P. - JANOUŠEK, P. Subjektivní hodnocení vlivu operace nosní průchodnosti na chrápání a kvalitu života - výsledky dotazníkového průzkumu. XVI. Český a XI. Česko-Slovenský kongres spánkové medicíny, Praha, 6.11.-8.11.2014. A communication not published in press.

KOCUM, P. - JIRÁK, P. - PODSTATÁ, J. - HUDLER, T. Chirurgická léčba chronické odontogenní sinusitidy v mezioborové spolupráci. ORL kongres národní, Ostrava, 4.6.-6.6.2014. A communication not published in press.

KOCUM, P. Onemocnění čelistního kloubu - miniinvazivní a chirurgická léčba. Onemocnění a léčba TMK, pro PZL, W-servis, Hotel Olšanka Praha, 22.11.-22.11.2014. A communication not published in press.

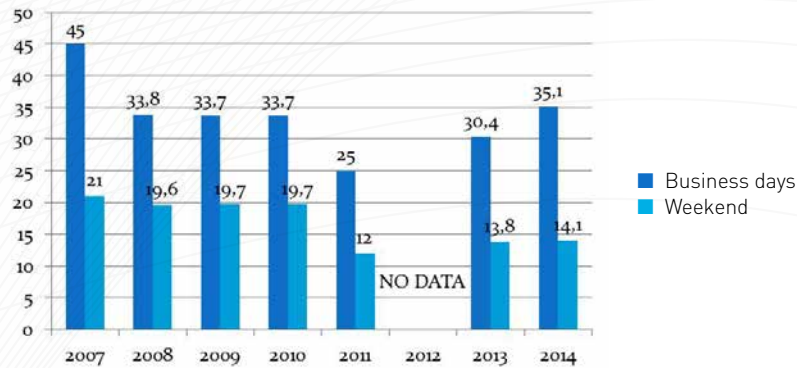
LUKÁŠ, J. - SYRŮČEK, M. - HINTNAUSOVÁ, B. Význam kombinace UZ-FNAC a elastografie v predikci malignity a výskytu mutací BRAF, KRAS a VEGFA v definitivní histologii u tyreoidálních uzlů. . American journal of contemporary scientific research, 2014, vol. Volume 1, no. Issue 3 AUG-SEP AIJC, s. 49-55. ISSN 2349-4425.

LUKÁŠ, J. - SYRŮČEK, M. - HINTNAUSOVÁ, B. Correlation among the BRAF gene mutation status, clinicopathological features of primary tumour, and lymph node metastasizing of papillary thyroid carcinoma. Exp Clinical Endocrinol Diabetes, 2014, vol. 122, no. 10.1055, s. 268-272. ISSN 0947-7349.

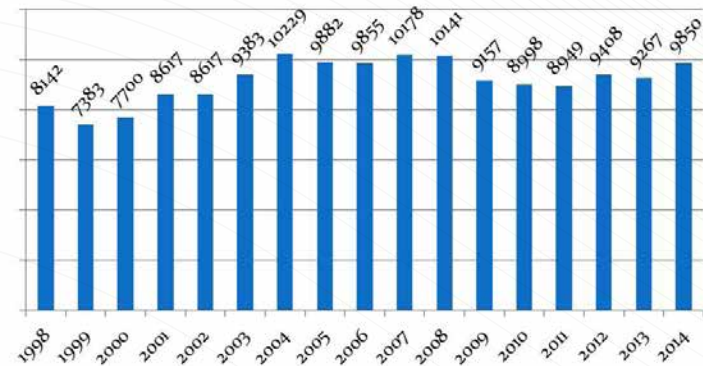
## DEPARTMENT OF ANESTHESIOLOGY AND RESUSCITATION

Head of the Department: Zbyněk Fuksa, MD

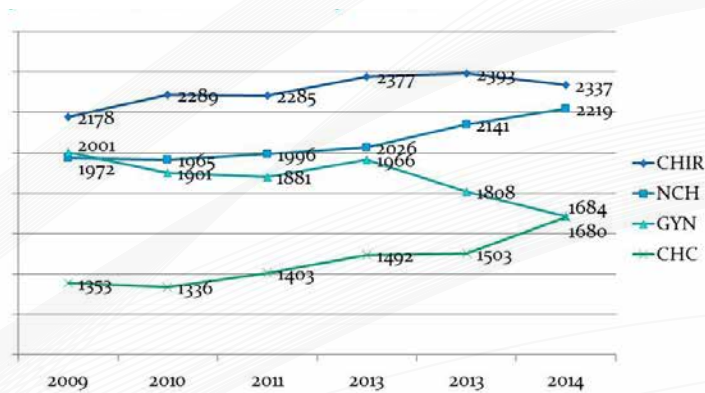
### Number of duties of physicians



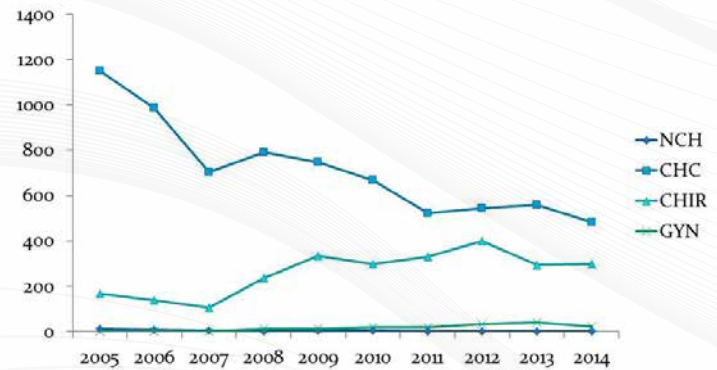
### Number of anesthesia applications in the Department of Anesthesia and Resuscitation of the Na Homolce Hospital (except for Cardiac Surgery) in 1998-2014



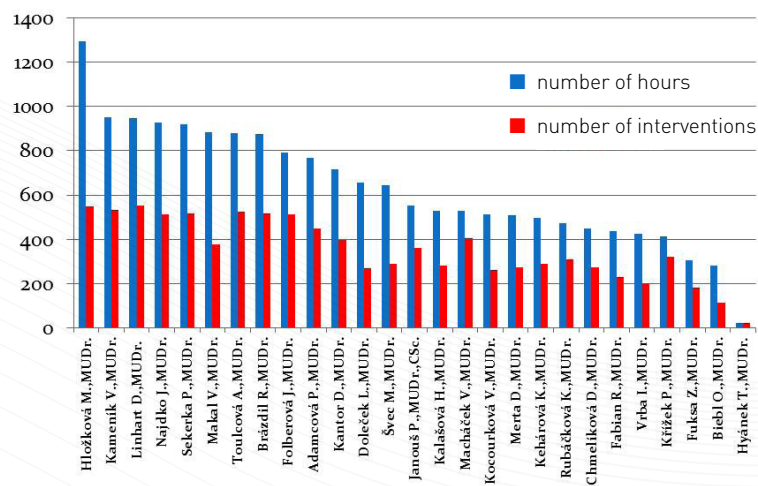
### Number of interventions in major surgery departments of the Na Homolce Hospital in the last 6 years



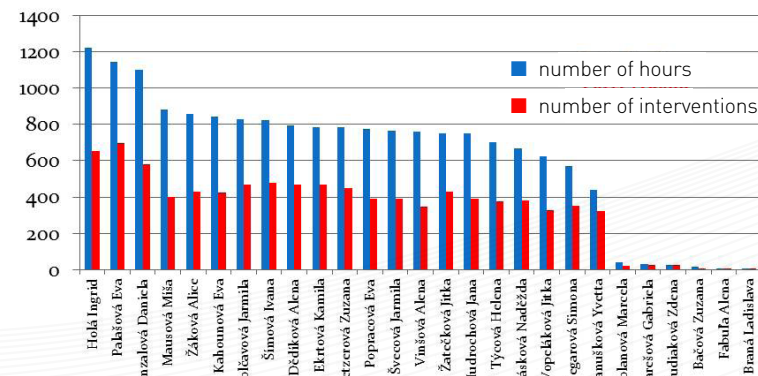
### Regional anesthesia applications in the Department of Anesthesia and Resuscitation of the Na Homolce Hospital in 2005-2014



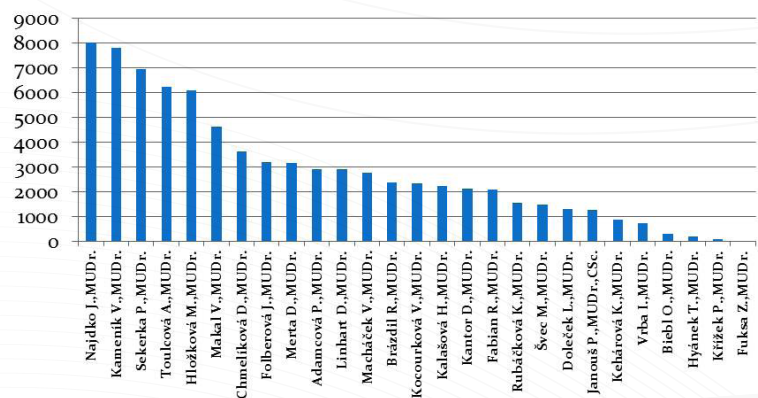
### Individual results of physicians of the Department of Anesthesia and Resuscitation of the Na Homolce Hospital – total duration of anesthesia/ number of patients in 2014



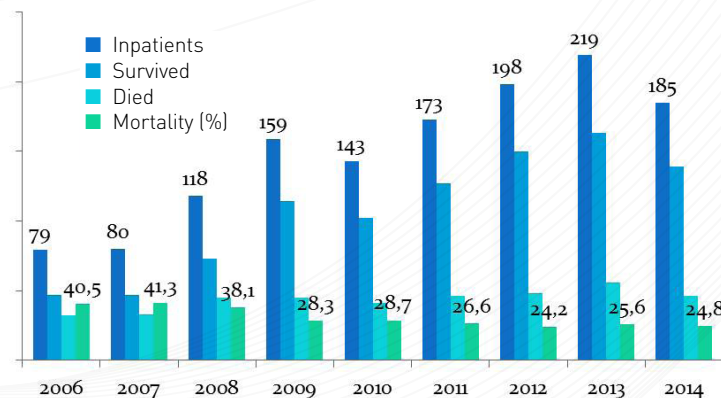
### Individual results of nurses of the Department of Anesthesia and Resuscitation of the Na Homolce Hospital – total duration of anesthesia/ number of patients in 2014



### Individual results of physicians of the Department of Anesthesia and Resuscitation – anesthesia duration outside working hours (minutes) – 2014

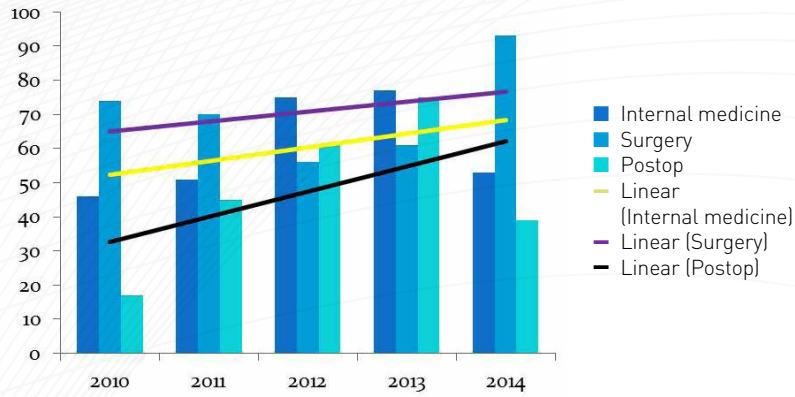


### Resuscitation unit of the Na Homolce Hospital - 2006-2014

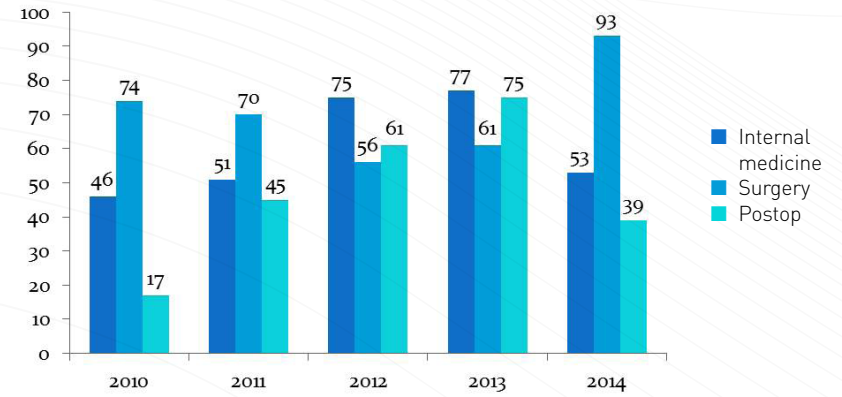




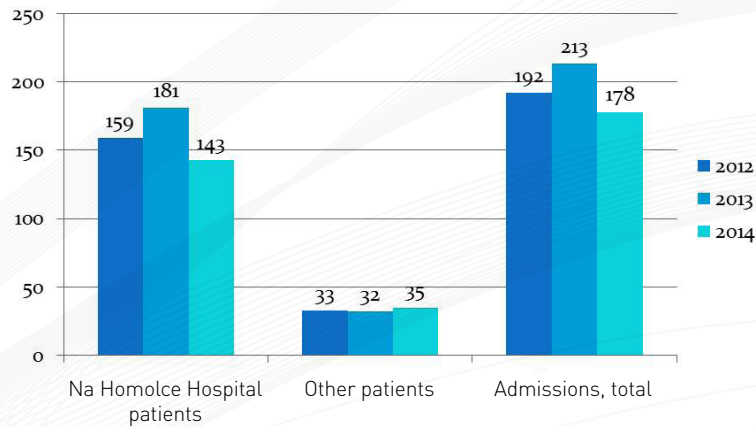
**Resuscitation unit of the Na Homolce Hospital  
Type of admission**



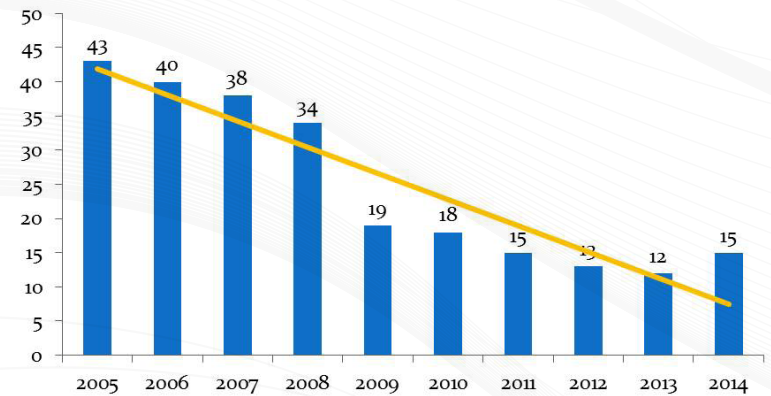
**Resuscitation unit of the Na Homolce Hospital  
Type of admission**



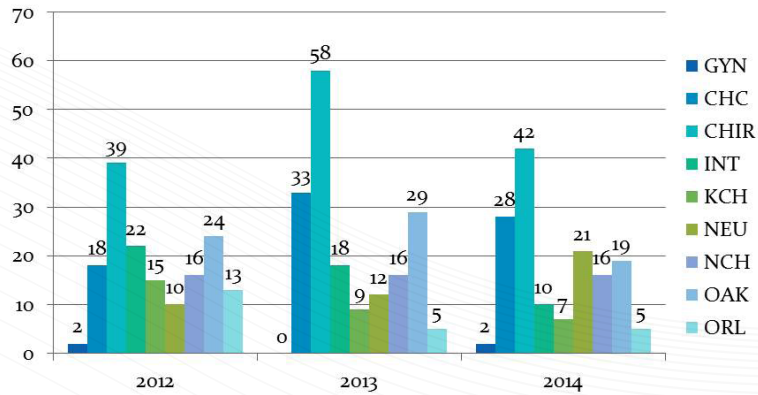
**Resuscitation unit of the Na Homolce Hospital  
Admission**



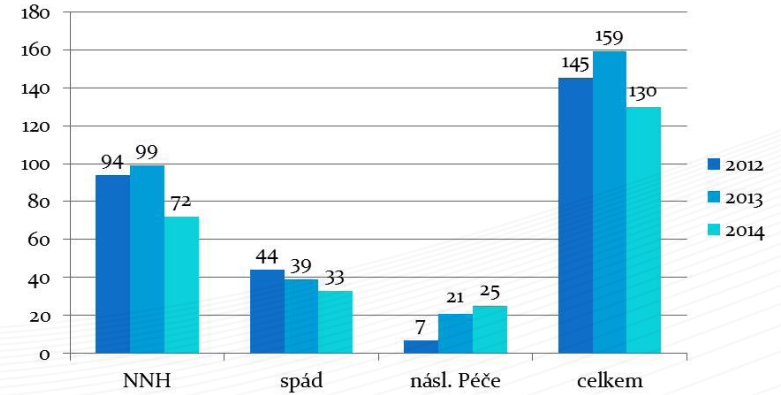
**Resuscitation unit of the Na Homolce Hospital  
Average hospital stay length (days)**



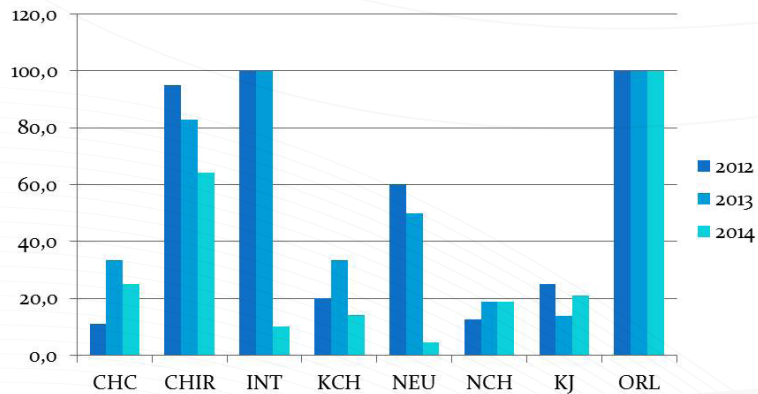
**Resuscitation unit of the Na Homolce Hospital  
Admissions by individual hospital departments**



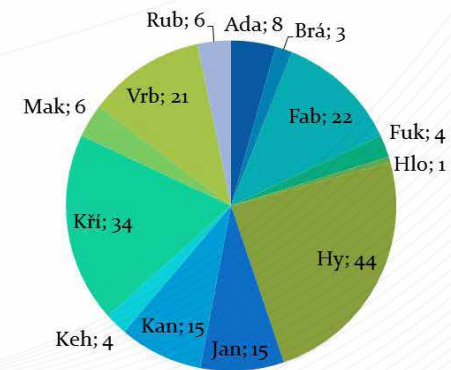
**Resuscitation unit of the Na Homolce Hospital  
Transfer of patients**



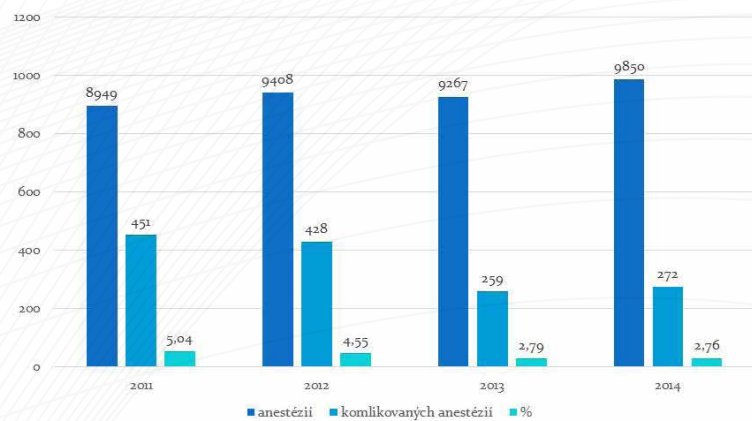
**Resuscitation unit of the Na Homolce Hospital  
% of patient "return rate" in the Na Homolce Hospital**



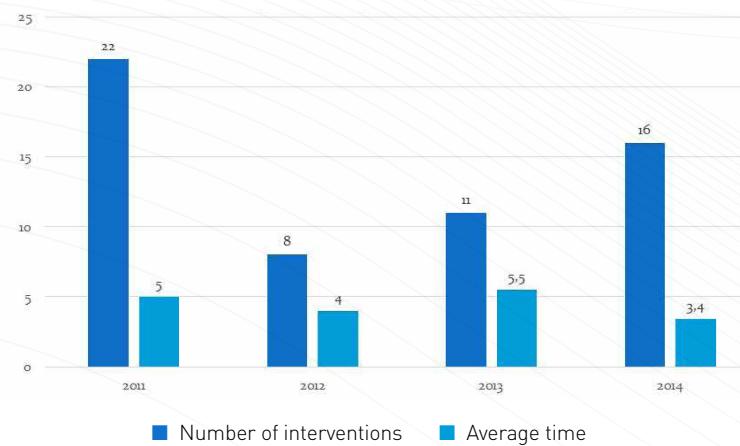
**Resuscitation unit of the Na Homolce Hospital – 2014  
Physician in charge of admission**



### Mp\_aro\_01 Complicated anesthesia



### Monitoring of interval between the call and arrival of the rescue time



## ■ DEPARTMENT OF CLINICAL PHARMACY

Head of the Department: Milada Halačová, PharmD, PhD

### ACTIVITIES OF THE DEPARTMENT

The Department of Clinical Pharmacy was established in 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 organisational structure it falls within the competence of Deputy Director for Therapeutic-Preventive Care. The team consists of pharmacists with a specialisation in clinical pharmacy, or those who will be included in training for this specialisation. The work of our clinical pharmacists is governed by the needs of Na Homolce Hospital, the safety standards set by JCI and by staff availability within the department. The activities in which a clinical pharmacist takes part are divided into several areas (Chart 1). The major areas include **(1) the assessment of a newly admitted patient's medical history**. This is only 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 any such interaction. In such a way future problematic medications for the patient or high-risk pharmacotherapeutic regimes are identified and continuously monitored. The key activity of the clinical pharmacist is **(2) the work in the clinical department** and close cooperation with the attending doctors and nurses. The clinical pharmacist monitors patient medication in detail and assesses any causal relationships between specific patient problems and their changes during illnesses, laboratory examinations and current medication, and adjusts drug dosages, especially of antibiotics for dialysed patients with various degrees of renal and hepatic damage. 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 the development of best practice, reports adverse effects to the State Institute or Drug Control and is responsible for **(4) preparing reports** for dealing with exceptional events in the hospital related to medications. The Department of Clinical Pharmacy

is working on a list of high-risk and LASA (look alike-sound alike) drugs and is involved in preparing a so-called proactive procedure and a storage system to minimise the number of errors in handling these drugs and the impact such errors might have on patients.

### Pharmacotherapy safety

#### Process analysis

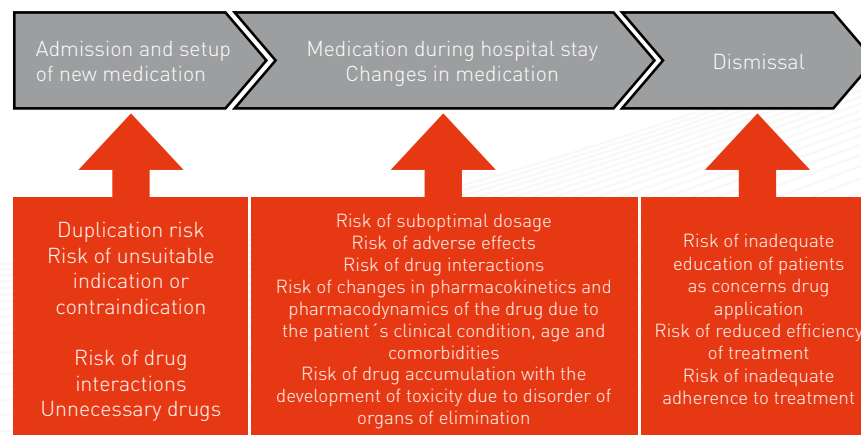


Table 1: Overview of activities of the Department of Clinical Pharmacy in the Na Homolce Hospital

### ACTIVITIES OF THE DEPARTMENT

The Department provides care to all patients in the hospital. Upon admission it usually separates young patients without medication who undergo a short-term, mostly ½-1 day hospital stay, those who are treated in the Centre for Sleep Disorders, indicated for the gamma knife treatment etc. The remaining approx. 50% of inpatients require detailed revisions by the clinical pharmacist, even several times during the hospital stay. Medication is adjusted on the basis of intervention of the clinical pharmacist in about 3,000 patients annually (30%). The highest percentage of interventions includes adjustment of medical drug dosage in case of impaired function of the organ of elimination (risk of accumulation), clinically significant medical drug interactions, severe adverse effects, incompatibilities, contraindications, unnecessary medical drugs etc.

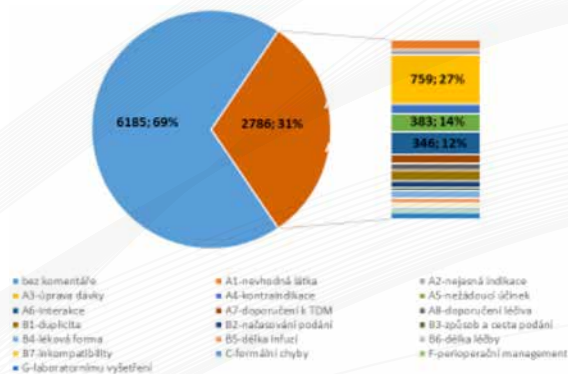
## Numbers of inpatients revised by the clinical pharmacist and consultations requested by outpatient departments in 2014

Number of revised inpatients . . . . .	8971
Number of inpatients with recommendation of the clinical pharmacist . . . . .	2786 (31%)
Number of patients with severe adverse effects . . . . .	383 (4%)
Number of consultations requested by the doctor in outpatient department . . . . .	1056

Graph 1: Number of recommendations of clinical pharmacists in the Na Homolce Hospital in 2012-2014



Graph 2: Detailed structure of identified drug related problems in 2014.



## ACCREDITATION FOR CLINICAL PHARMACY

The Department is a member of the accreditation board of the Ministry of Health for clinical pharmacy. In 2014, it trained 8 post-graduate fellows and 12 undergraduate students.

## PUBLIC ACTIVITIES:

Membership of the accreditation board of the Ministry of Health for clinical pharmacy.

Vice-Chairwoman of the Section of clinical pharmacy of the Czech Pharmaceutical Society of J.E. Purkyně.

Educational activities in the discipline of pharmacology at the faculties of medicine and pharmacology in Prague and Brno

Membership of the Board of the Institute for medical drug guide.

## 2014 PERSONNEL DATA:

Number of clinical pharmacists: 5.5 FTE

## CONCLUSION

A high standard of the clinical pharmaceutical care was confirmed by the JCI international audit of quality and safety of care, that the Na Homolce Hospital successfully repeatedly defended in 2014. The clinical pharmaceutical care provided by the hospital has become a common standard ensuring a high standard and safety of pharmacotherapy for all its patients.

The global setup of the clinical pharmacological care in the Na Homolce Hospital, guaranteed by the JCI independent international accreditation, is currently a unique project in our country that was several times awarded and in 2013 the hospital became winner of the national competition "A Safe Hospital".

# OUTPATIENT DEPARTMENTS



## ■ CENTRE FOR ALLERGY AND CLINICAL IMMUNOLOGY

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

In 2014, the Department for Allergy and Clinical Immunology continued to provide comprehensive diagnostic, therapeutic and preventive care as well as consultations in the field of allergy, asthma and other immunopathological conditions of patients of all ages.

### ACTIVITIES

1) Therapeutic-preventive specialised outpatient care provided to **adult and pediatric patients with allergic diseases, immunity disorders and recurrent respiratory infections.**

#### 2) Postgraduate courses

(In 2014 re-accreditation by the Ministry of Health CR for postgraduate training in the given specialisation.)

3) **Co-organisation of educational activities within lifelong education on the national basis** – of these, 3 events were organised in the congress hall of the Na Homolce Hospital.

4) **R&D and publishing activities** – active and passive participation in workshops and congresses both at home and abroad, publications – see electronic register on intranet

For detailed information see below

5) Participation in training courses, workshops, conferences, international congresses

6) **Public education activity** – through radio and TV broadcasting, articles in press

7) **The Club of Patients with Allergies and Asthma** (AA Club Homolka) continued their activities. The club is a member of the Association for the Assistance of Chronically Ill Children and has more than 100 families as members. For eighteen years now, it has been bringing together families with children with allergies, organising educational lectures, publishing its newsletter “Motýlek” (Butterfly), distributing the journal, “Allergy, Asthma, Bronchitis”, and improving the quality of care for children with allergies and asthma. In addition, another two-week therapeutic stay at the seaside in Greece was organised in August for 56 children aged 6-16 years.

## ORGANISATIONAL UNITS OF THE DEPARTMENT

An outpatient department with 4 units, three preparation rooms and a laboratory of functional diagnostic.

### BASIC DATA

**Number of doctors: 5** (3.2 FTE until October 2014 and 3.0 FTE from November 2014) **+ 2 doctors** from the Department of Clinical Biochemistry, Hematology and Immunology (L. Sedláčková, MD, Assoc. Prof. M. Průcha, MD), 0.4 FTE each

Assoc. prof. P. Čáp, MD: 1.0 FTE, Assoc. Prof. J. Petrů, MD: 0.6 FTE, Herknerová, MD: 0.8 FTE, Pončáková, MD: 0.4 FTE, Bělohlávková, MD 0.4 FTE until October 2014, Pennigrová, MD 0.2 FTE (from November 2014)

**Number of nursing staff: 6** (5.0 FTE):

J. Šimoničková (section nurse): 1.0 FTE, H. Kolářová: 1.0 FTE, J. Čejková 1.0 FTE, J. Ledvinová 1.0 FTE, R. Šestáková: 0.4 FTE, P. Martello 0.6 FTE

### Overview of selected interventions in the outpatient department

Examinations in 2014	Number
Number of patients	5 874
Number of examinations	11 325
Skin tests	40 409
Spirometry	8 082
Bronchomotoric tests	1 130
Rhinomanometry	93
Allergy vaccine treatment	600

### CHANGES IN 2014 AND COMMENTS

On 1 January 2014 the management of the Centre for Allergy and Clinical Immunology changed. The senior physician was appointed Assoc. Prof. Petr Čáp, MD, PhD; Assoc. Prof. J. Petrů, MD retired and continues to work part-time (0,6). One doctor (Kopecká, MD) and one nurse (G. Polálová) left and Herknerová, MD (0.8 FTE) joined the Department, Bělohlávková, MD, 0.4 FTE (left for maternity leave in November 2014). In January 2014 the nurse P. Martello (0.6 FTE) and in November 2014 Pennigrová, MD (0.2 FTE) joined the Department.

The operation of the Centre was smooth both in the adult and paediatric section, regular workshops were organised and doctors and nurses participated in educational events.

### **PUBLICATIONS, EDUCATIONAL AND SCIENTIFIC ACTIVITIES**

1) Assoc. Prof. P. Čáp is the author of the publication on Examination of exhaled nitric oxide in bronchial asthma. (Mladá fronta a.s. 2014, Praha).

2) Postgraduate education in the field of Allergy and Clinical Immunology (study stays, lectures).

3) Involvement in undergraduate training (Assoc. Prof. P. Čáp) at 1st and 2nd Faculties of Medicine, Charles University (Institute of Immunology Motol and Pneumology Clinic of the General Teaching Hospital and Thomayer Teaching Hospital, Charles University in Prague – foreign ERASMUS students).

4) Organization of in-service training courses and symposia for allergologists and paediatricians, organized in the Hospital: Assoc. Prof. Petrů, Assoc. Prof. P. Čáp (3times annually) as well as outside the Hospital.

5) Organization of nurse certificate programmes at the Institute of Postgraduate Studies in Healthcare Prague (Assoc. Prof. Petrů and J.Šimoníčková).

6) Two nurses of the Centre for Allergy and Clinical Immunology (J. Ledvinová and J. Čejková) completed a nurse certificate course in the field of Allergy and Clinical Immunology.

7) Assoc. Prof. Petrů, Assoc. Prof. P. Čáp and J.Šimoníčková are lecturers of the Czech Initiative for Asthma (Česká iniciativa pro astma o.p.s.).

8) Membership of editorial boards of specialised journals: Assoc. Prof. P. Čáp is a member of the editorial board of the Journal of Czech Physicians and the journal Allergy, Assoc. Prof. Petrů is a deputy of the Editor-in-Chief of the journal Allergy.

9) Expertise opinions for State Institute of Drug Control and the Ministry of Health (grants).

10) Membership of professional societies:

- Czech Society for Allergy and Clinical Immunology of J.E. Purkyně (CSACI): (Assoc. Prof. Petrů – Chairman of the CSACI board, Assoc. Prof. P. Čáp – member of the CSACI board, all other physicians are CSACI members. J. Šimoníčková – secretary of the CSACI board + secretary of the board of the Section of Allergy Nurses, all nurses are members of the Section of Allergy Nurses
- Czech Immunological Society (Assoc. Prof. Petrů)
- Czech Pneumology and Phthisiology Society of J. E. Purkyně (Assoc. Prof. P. Čáp)
- Czech Society of Internal Medicine of J.E. Purkyně (Assoc. Prof. P. Čáp)
- European Academy of Allergy and Clinical Immunology (Assoc. Prof. Petrů, Herknerová, MD, Assoc. Prof. P. Čáp)
- European Respiratory Society (Assoc. Prof. P. Čáp)
- American Academy of Allergy, Asthma and Immunology (Assoc. Prof. Petrů)

11) Assoc. Prof. Petrů is a chairman of the accreditation board of the Ministry of Health CR for Allergy and Clinical Immunology.

12) Assoc. Prof. P. Čáp is a member of the Scientific Board of the Na Homolce Hospital.

13) Assoc. Prof. P. Čáp is a chairman of the Ethics Committee of the Na Homolce Hospital.

14) Research activity – Assoc. Prof. P. Čáp as a coordinator: participation in research activity - OLA EX AIR projects – determination of breathing profiles of inflammatory parameters in patients with severe asthma (Pulmonary Department of Hradec Králové Hospital, Department of Occupational Medicine of 1st Faculty of Medicine, Charles University, Prague, University of Chemistry and Technology Prague and the Na Homolce Hospital).

15) Extensive publishing activities of the Department staff went on also in 2014.



## ■ DEPARTMENT OF PEDIATRIC AND ADOLESCENT MEDICINE

Senior Physician: Zuzana Hejtmánková, MD

### MISSION OF THE DEPARTMENT

- to provide a high quality health care to children and adolescents within the general healthcare programme of the Na Homolce Hospital
- to offer above-standard services to the patients and indirectly also to their family members
- a friendly and professional approach of the staff, open and patient-oriented communication

### ACTIVITIES OF THE DEPARTMENT

- therapeutic-preventive care provided to children and adolescents
  - general practitioner for children and adolescents – specialisation 002
- consulting services in the field of pediatric care - specialisation 301
- pediatric care in:
  - neurology
  - gastroenterology
  - orthopedics
  - nephrology
  - endocrinology
  - psychology
  - pneumology
  - speech therapy
- therapeutic-preventive care provided to foreign nationals
- consulting services provided to children of foreign nationals
- healthcare stipulated by international treaties of the Czech Republic
- therapeutic-preventive care provided to clients of the Commercial Programme
- emergency service

### THE CURRENT STATE

The Department of Pediatric and Adolescent Medicine is an outpatient unit without inpatient section it has at its disposal:

- 3 pediatric outpatient departments – of this 1 consulting unit
- 1 outpatient department of clinical speech therapist
- 1 room for laboratory sampling, used also for emergency

- resuscitation and isolation of infectious patients prior to their transport to infection ward
- ultrasound examination unit
- rooms for staff
- a separate register of all patients in the age group 0-19 years
- hygienic facilities for the staff on 1st floor
- a room for storing laundry

### STAFF OF THE DEPARTMENT

Doctors: 2 doctors full-time  
2 doctors part-time  
1 university non-medical graduate full-time /clinical speech therapy/  
7 consulting specialists  
6 doctors ensuring on a contractual basis together with the core staff the hospital emergency service and substituting doctors during holidays or sick leave

General nursing staff: 5 pediatric nurses (of which 1 with 0.75 FTE)

Pediatric reception desk: 3 employees

### PERFORMANCE OVERVIEW:

Total number of registered patients: . . . . .	3 602
Children under permanent care: . . . . .	1 341
Children registered in consulting unit: . . . . .	262
Children in specialised outpatient department: . . . . .	513
Speech therapy outpatient department: . . . . .	374
Registered foreign nationals: . . . . .	198
Paying foreigners: . . . . .	64
The Commercial programme clients: . . . . .	H+ 127, HPC 51
Registered newborns (2013): . . . . .	52

### Total number of interventions:

Pediatric doctors . . . . .	11 946
Consulting doctors . . . . .	2 697
Speech therapy . . . . .	2 872
External workers . . . . .	3 641

### Average number of patients treated daily in the outpatient department

Pediatrics: . . . . .	18
Consultancy: . . . . .	9
Speech therapy: . . . . .	15
Emergency service - on business days: . . . . .	3
Emergency service - on holidays: . . . . .	10
Total number of treated foreigners: . . . . .	945
The number of children treated daily in the department: . . . . .	48

### ECONOMIC RESULTS FOR 2014

Costs . . . . .	8 171 689
Wages . . . . .	7 162 280
Material . . . . .	679 024
<b>Revenues total . . . . .</b>	<b>2 909</b>

### Scoring points

Total number of points . . . . .	3 633 016
Pediatrics . . . . .	1 727 912
Consultancies . . . . .	526 545
Speech therapy . . . . .	845 299
External workers . . . . .	531 692

### CHANGES AND EVENTS IN 2014

In 2014, Bajová Silvia, MD (0.5 FTE) joined the pediatric department. She has a postgraduate certificate in pediatrics and general practical medicine for children and adolescents.

In addition to the wide range of complementary services, the Department used CRP ORION examination for a quick diagnosis of inflammatory diseases allowing an efficient pharmacotherapy of these conditions. In total, 1744 of these examinations were performed. A new STREPTTEST device for diagnosis of streptococcal infection was purchased and used in 434 examinations.

Continuous education of doctors was organised in the form of courses of the Czech Medical Chamber and Clinical Days held at the Clinic of Pediatric and Adolescent Medicine Ke Karlovu 2, Prague 2.

The outpatient department of neurology and orthopedics pursued the established programme of neuroorthopedic screening focused on neurological-orthopedic observation of patients, aimed at early identification and the subsequent observation and treatment of disorders of the musculoskeletal apparatus, i.e. disorders of gait coordination, postural and neurology-related defects .

The endocrinology consulting centre, in cooperation with pediatric outpatient departments, is involved in early detection of children with the diagnosed intrauterine growth retardation (their further follow-up is ensured by the Institute of Endocrinology) and juvenile thyreopathy.

The psychology consulting unit provides diagnostic services to the clinical psychologist for crisis intervention and long-term monitoring of a child's development.

Clinical speech therapy is provided to children registered in the Department as well as to children from other healthcare facilities in Prague and other regions.

Consulting services are provided by the pediatric gastroenterology outpatient department, including ultrasound diagnosing of the gastrointestinal tract in children.

At the end of 2014, the Department began to build a new outpatient department for consulting doctors in order to ensure adequate work conditions and equipment for their work.

### OUTLOOK FOR 2015

The pediatric Department will also in 2015 provide high quality therapeutic-preventive care with the use of laboratories and equipment of the hospital. Economic activity will continue to be carried out within the hospital flat rate and payment per capita for specialisation 002.

Inpatient care for its patients will be ensured by the Department preferably in cooperation with the Clinic of Pediatric and Adolescent Medicine Ke Karlovu 2, Prague 2.

The aim remains a high quality and cost effective outpatient care. The Department should produce a stable number of scoring points, cooperate with the complementary services of the hospital and generate additional revenues within the commercial programme.

Continuous education of doctors and nurses will continue also in 2015.

The Department plans to involve additional specialists in its consulting services and to offer through its website specialised consulting services (according to the available capacity) to general practitioners for children and adolescents in Prague 5.

It will gradually recruit young doctors with postgraduate certificate to fill the vacant positions.

During the whole year, the Department accepted new patients of all age groups for registration and the same procedure is planned also for 2015.

## ■ DEPARTMENT OF DERMATOLOGY

**Senior Physician of the Department: Richard Šuraň, MD**

### ACTIVITIES OF THE DEPARTMENT:

The Department of Dermatovenerology of the Na Homolce Hospital ensures outpatient therapeutic-preventive care for clients of commercial services (Homolka premium care, Comfort care and paying foreigners), the staff of embassies in the Czech Republic, the staff of the Na Homolce Hospital, and consulting services for the hospital outpatients and inpatients.

Treatment of other patients from the Czech Republic and abroad is provided only based on the immediate availability of doctors in the Department.

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

The Department makes examination of suspected skin tumours and in case of histological confirmation of the diagnosis, the patients are treated and followed-up by the Department. Patients with Melanoma malignum and Lymphoma cutis are referred to the Department of Oncology of the Na Homolce Hospital (and the Department of Dermatology is then involved in their follow-up), or to the outpatient departments of dermatooncology of other departments of dermatology.

In addition to the basic specialised examination the Department performs electrocauterisation, cryotherapy, sclerotherapy of varicose veins, examination of pigment formations by dermatoscope, doppler

and photoplethysmography examination of the vascular system of limbs, dermatosurgery and aesthetic dermatology interventions.

### ORGANISATION OF THE DEPARTMENT:

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

### PERFORMANCE OVERVIEW:

In 2014, the Department performed in total 10 035 outpatient examinations.

### CHANGES:

No changes were made in the Department staff as compared to 2013.

### PUBLICATION, EDUCATIONAL AND R&D ACTIVITIES:

Doctors and nurses of the Department are involved in postgraduate training courses.

### OUTLOOK FOR 2016:

The task of the Department for 2016 and the following years is to maintain the quality of the provided therapeutic-preventive care, extension of epicutaneous testing and the range of aesthetic dermatology interventions.

## ■ DEPARTMENT OF OPHTHALMOLOGY

**Senior Physician of the Department: Petr Novák, MD**

### ACTIVITIES OF THE DEPARTMENT

- outpatient therapeutic-preventative ophthalmological care for patients of H+system, HPC, foreigners, employees and other patients
- consulting services provided to both outpatients and inpatients from different hospital departments (primarily neurology, neurosurgery, cardiology, anaesthesiology and resuscitation and internal medicine)
- specialised examinations of patients referred from external ophthalmologists and other specialists

- outpatient surgery– cataract surgery, anterior segment and glaucoma surgery, eye-lid surgery (currently more than 99% of cataract surgeries are done on an outpatient basis)
- corneal transplantation and certain cataract surgeries are performed in the inpatient department (in patients from remote regions and in severely ill patients). For this purpose the Department uses beds in the ENT Department and Department of Internal Medicine
- surgical interventions paid by patients (refractive clear lens extractions, implantation of phakic lenses, astigmatism corrections)

### ORGANISATIONAL UNITS OF THE DEPARTMENT

- The Department of Ophthalmology comprises two cost centres – the outpatient department and operating theatre
- The Department is managed by the senior physician and the staff work in four outpatient units
- The Department has no inpatient ward and, if need be, the patients stay in the Department of Internal Medicine or ENT Department.

### NUMBER OF INTERVENTIONS AND PRODUCTIVITY IN 2014

- Number of outpatient examinations . . . . . 14695
- Number of patients treated in individual departments . . . . . 6205
- Total number of operations. . . . . 1398
  - cataract surgery . . . . . 1163
  - commercial refraction interventions . . . . . 154
  - transplantation of cornea . . . . . 36
  - surgical correction of astigmatism . . . . . 41

### BASIC DATA

- **Doctors**
- Number of doctors . . . . . 6
- FTE . . . . . 4.3
- Contract for work . . . . . 0.2
- **General nursing and paramedical staff**
- General nursing staff . . . . . 6
- FTE . . . . . 6.0

- Paramedical staff . . . . . 1
- FTE . . . . . 1.0

- **Technical staff**

- Technical staff . . . . . 1
- FTE . . . . . 1.0

- **Employees total**

- Total number of employees . . . . . 14
- FTE . . . . . 12.5

- **Personnel changes** . . . . . 0

### CHANGES IN 2014

- No investments were made in the surgical and technical equipment of the Department
- Long-term stabilization of the number of cataract surgeries and corneal transplantations
- Commercial refractive surgery – the numbers of lens extractions with replacement by monofocal or multifocal implants, implantation of toric and phakic lenses are the same as in the previous year
- The possibility (originally stipulated by law) to collect additional fee from patients interested in implantation of an above-standard lens within the “economically more demanding treatment option” (implantation of toric and multifocal lenses within the cataract surgery covered by the health insurance companies), that was highly successful from the viewpoint of patients, was cancelled in August 2013. Patients are still interested in this form of surgery.

### EDUCATIONAL AND SPECIALISED ACTIVITIES

- Doctors are members of the Ophthalmological Society, the Czech Society of Refractory and Cataract Surgery,
- They participate both actively and passively in workshops, congresses and other events of the Societies
- in 2011, the doctors participated in postgraduate courses both at home and abroad (the Lion Educational Centre, international cataract surgery course)
- a number of presentations at ophthalmological congresses and workshops

## LECTURES

Novák P.: 3x Tecnis multifocal, Odborný seminář „Střešovice Live&Video Surgery“. Praha 24.- 25.1.2014

NOVÁK P. Duel: LASIK vs.SMILE. 12.Mezinárodní kongres ČSRKCH, Ostrava, 23.5.-24.5.2014.

NOVÁK P., Procházková S. 3x Tecnis multifocal. 12. Mezinárodní kongres ČSRKCH, Ostrava, 23.5.-24.5.2014.

NOVÁK, P. Kroky nezbytné k úspěšnému provedení operace katarakty XXII. Výroční sjezd České oftalmologické společnosti, Praha, 19.6.-21.6.2014, Ústí nad Labem: BOS org., 2014. s. 18. ISBN 978-80-87562-22-2.

NOVÁK P. Live Surgery. Kataraktová škola a refrakční kurz 2014, Praha, 4.11.-6.11.2014.

NOVÁK P. Možnosti řešení astigmatismu. Kataraktová škola a refrakční kurz 2014, Praha, 4.11.-6.11.2014.

NOVÁK P. Fotoablační techniky - PRK. Kataraktová škola a refrakční kurz 2014, Praha, 4.11.-6.11.2014.

NOVÁK P. Fotoablační techniky - LASIK. Kataraktová škola a refrakční kurz 2014, Praha, 4.11.-6.11.2014.

NOVÁK P. Noční můry refrakčního chirurga a jak jim předejít. Kataraktová škola a refrakční kurz 2014, Praha, 4.11.-6.11.2014.

NOVÁK P. Kasuistiky z Homolky. 7.Rohovkový den, Praha, 12.12.2014.

## MÉDIA

NOVÁK, P. Sama doma. ČT1, 4.11.2014.

NOVÁK, P. Studio 6. ČT1, 8.11.2014.

NOVÁK, P. Třináctka. ČR Regina, 6.6.2014.

NOVÁK, P. Třináctka. ČR Regina, 8.8.2014.

NOVÁK, P. Třináctka. ČR Regina, 7.11.2014.

## PERSPECTIVES AND PLAN OF DEVELOPMENT FOR 2015

- increasing information awareness of the specialised public as concerns the possibilities of treatment in the Department of

Ophthalmology either covered by health insurance companies or provided in the form of commercial care

- coping with competitive conditions in the medical market within so called economically more demanding options of healthcare
- popularization of interventions performed in the Department among broad public and strengthening of its position among other ophthalmology facilities
- further gradual upgrade of technical equipment of the Department, such as purchase of a laser device for secondary cataract treatment or ocular tomograph (OCT), for early diagnosis of macular lesions, that was not implemented in 2013-2014 due to a radical cuts in investments, and was transferred to the plan for 2015
- additional extension of the range and increase of the total number of commercial intraocular interventions
- the Department meets the highest standards of surgical care
- continuous cooperation with clinical ophthalmological facilities in Prague
- workshops under the auspices of the Department of Ophthalmology, workshops organised by the Association of Nurses, the Lion Educational Centre in the Czech Republic and the Czech Society of Refractive and Cataract Surgeons
- the necessity to address the lack of space in the Department

## ■ DEPARTMENT OF PSYCHIATRY

**Senior physician of the Department: Jaroslava Skopová, MD**

**Activities:** diagnostic and therapeutic-preventive psychiatric care provided to inpatients, patients of the department for foreigners, within other hospital programmes; providing consulting services in the hospital and cooperation with other doctors in the programme of comprehensive pain management.

### BASIC DATA:

The Department comprises one outpatient department.

Staff: 1 doctor (1.0 FTE), with I and II degree Postgraduate Certificate in psychiatry and function specialisation in systematic psychotherapy  
1 certified general nurse (1.0 FTE).

## PERFORMANCE OVERVIEW

Number of examinations in 2014: 2 689 – of this 135 new, initial examinations 68 consulting sessions

## EVALUATION OF CLINICAL ACTIVITY:

The number of examinations in 2014 corresponds to the number of examinations in the previous years and the capacity of the Department. The focus of the clinical activity remains the same, i.e. comprehensive diagnostic and therapeutic-preventive psychiatric care, respecting the hospital priorities. The patients that cannot be admitted for treatment due to lack of capacity are referred to other departments of psychiatry. The senior physician cooperates with other inpatient departments of psychiatry in Prague where patients indicated for hospitalisation are referred, as well as with community service centres which receive patients with severe mental disorders and impaired functional abilities.

## CHANGES IN 2014

None

## PUBLICATIONS, EDUCATIONAL AND R&D ACTIVITIES

With only one doctor, the Department of Psychiatry does not have the respective capacity for educational or scientific activity. The senior physician regularly participates in selected specialised events and annual psychopharmacological conferences. Once in two years she attends congresses of the Czech Psychiatric Society and the Society of Biological Psychiatry. She also presents lectures within workshops of the hospital departments, workshops of the Department of Psychiatry of the General Teaching Hospital of 1st Faculty of Medicine, Charles University, Association of General Practitioners etc. Membership of professional societies: the Psychiatric Society of J.E. Purkyně, the Czech Neuropsychopharmacological Society, the Society of Biological Psychiatry.

The senior physician is a sworn expert entered in the list of sworn experts of the Municipal Court in Prague. She is a member of the professional committee of the Scientific Board of the Czech Medical Chamber for psychiatry.

## OUTLOOK FOR 2015

The aim is to maintain the current high quality of the provided care and economic results. As the Na Homolce Hospital is a highly specialised healthcare institution where psychiatry is only a complementary discipline to ensure a comprehensive range of the medical services provided, and the Department has only one doctor, no further development is possible.

## ■ DEPARTMENT OF CLINICAL PSYCHOLOGY

**Head of the Department: Martin Kořán, MA, PhD**

### MISSION OF THE DEPARTMENT:

The staff of the Department (cost centre 3040) that was established in the Na Homolce Hospital on 1 May 2009 provided in 2014 a wide range of diagnostic, psychotherapeutic and consulting services to inpatients and outpatients of the hospital. The Department has no inpatient ward. The psychologists work in three outpatient departments where they examine patients and provide psychotherapy in compliance with the respective specialisation of individual departments (particularly neurosurgery, neurology, stereotactic and radiation neurosurgery, internal medicine, surgery etc.) according to the requests of attending physicians. They also provide consulting services to other departments of the hospital. J. Procházková, MA, shares a room (D 104) with other pediatric specialists.

Specialised psychological care includes preoperative psychological preparation before complicated interventions, help in coping with the impact of their diseases, psychological diagnostics aimed at the identification of intellectual and cognitive abilities or assessment of personality psychopathology that would rule out some medical interventions.

From 1 November 2013, Mgr. Jana Žmolíková was on sick leave, and since 29 April 2014 she has been on maternity leave (the treatment of bariatric patients was assumed by M. Kořán, MA, PhD). In May 2014 a tender was announced for the position of a psychologist. Unfortunately, neither of 35 applicants who responded, had the respective qualification or practical experience. Thus the position is still vacant which has resulted in reduction of the scoring point production and increased workload of the current staff of the Department.

## ACTIVITIES:

- **Neuroprogramme** – specialised neuropsychological diagnostics and psychotherapy in patients with neurological diseases (epileptosurgical programme, neurosurgical treatment of tumours, cerebrovascular diseases, cognitive rehabilitation, cooperation with Department of Neurosurgery of the Na Homolce Hospital, e.g. in awake brain surgeries, cognitive rehabilitation of patients with neurocognitive deficit, cooperation with the Department of Stereotactic and Radiation Neurosurgery in examination of patients with epilepsy, obsessive-compulsive disorder etc. prior to and after the intervention) –L. Krámská, MA, PhD

- **Cardioprogramme** – specialised psychological diagnostics and psychotherapy in patients with cardiovascular diseases (cardiac surgery, demanding vascular reconstructions, acute myocardial infarction, implantation of neurostimulator for refractory angina pectoris etc.) M. Kořán, MA, PhD + all clinical psychologists

- **Internal medicine programme** (specialised psychodiagnostic and psychotherapeutic treatment in the field of obesitology and bariatrics, diabetology, endocrinology, oncology, pneumology and gastroenterology. Other activities include psychosomatic and obesitology consultations) – (Since 1 January 2014 these activities have been assumed by M. Kořán, MA, PhD)

- **Crisis intervention** in acute responses to unfavourable diagnosis, psychological preparation for demanding interventions, assistance in coping with psychological impacts of diseases (Leksell gamma knife, oncology etc.) –M. Kořán, MA, PhD; L. Krámská, MA, PhD

- **Pain management consulting centre** – provides psychological examination and subsequent supporting psychological care to patients with long-term or chronic pain (in cooperation with I. Vrba, MD, PhD). M. Kořán, MA, PhD

- **Psychosomatic consulting centre** – psychological treatment of patients with psychosomatic disorders (e.g. high blood pressure, ulcer diseases, diabetes, various functional disorders etc.) requiring a professional psychological intervention. All clinical psychologists

- **Psychodiagnostics and psychotherapy in children** with various psychosomatic and educational problems within a comprehensive care for pediatric patients–J. Procházková, MA

- **Psychological examination of patients required by 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, before returning driving licence to patients etc.) – all clinical psychologists

## COMPLEMENTARY SERVICES:

- examination within assessment of personality qualifications of persons to be in contact with secret information within the meaning of Act no. 148/98 Coll. (the section accredited by the National Security Centre)

- psychological examination of drivers pursuant to Act no. 361/2000 Coll., is performed by a psychologist accredited by the Ministry of Transport.

## EDUCATIONAL ACTIVITIES:

- Organizing study stays within undergraduate education (for the Philosophical Faculty and Faculty of Education of Charles University – a total of 15 students), supervising diploma theses, as well as within postgraduate study (courses for Postgraduate Certificate in clinical psychology - a total of 6 postgraduates and 2 PhD students (M. Kořán, MD, L. Krámská, MD, J. Procházková, MD)

- L. Krámská, MD, PhD has established the Czech Neuropsychological Society and develops its activities, obtained accreditation by the Ministry of Health CR for a certificate course on clinical neuropsychology, is a member of the Branch board of the postgraduate study programme in the field of clinical psychology at the Philosophical Faculty, Charles University, cooperates in the long run with the Prague Psychiatric Centre, lectures at the Subdepartment of clinical psychology of the Institute of Postgraduate Studies in Healthcare. She supervised 10 undergraduate, 4 postgraduate and 2 PhD students. She is a member of the International Board of the International Neuropsychological Society and the board of the European Neuropsychological Society for the Czech Republic.

- M. Kořán, MD, PhD is a lecturer in the postgraduate courses on transport psychology at the Philosophical Faculty of the Palacký University in Olomouc, Masaryk University Brno and Philosophical Faculty, Charles University, Prague, actively participates in the workshops of the Department of Clinical Psychology within specialised education in clinical psychology and is involved in supervising Bc and Mgr courses for nurses from the Hospital.

- J. Procházková, MD was involved in organization of 2nd Conference of sworn experts in Ostrava (26.-28. 1. 2014), presents lectures at specialised workshops and conferences on sexual violence against children, interrogation of child witnesses etc., is a member of the Ethics Committee of the Czech-Moravian Psychological Society and of the Board of scientific societies at the Academy of Sciences CR, presents lectures within SUR psychodynamic training, is a supervisor in various institutes (Consulting and Advisory Centre for Family and Interpersonal Relations, Christian Aid Centre, children´s homes Lety, Slaný, DOMUS Plzeň etc.), supervised postgraduates (5 students of psychology from the Faculty of Education, Charles University and another 2 postgraduates in the field of pediatric clinical psychology

### LECTURES AND PUBLICATIONS IN 2014:

In 2014, psychologists of the Department presented a total of 11 lectures at domestic and 6 lectures at international congresses (L. Krámská, MD as a co-author). They published (also as co-authors) 3 articles in foreign journals. Part of their activity was also lecturing in undergraduate and postgraduate courses within specialised workshops organized by the Department (see the database of publications of the Hospital).

### OTHER SPECIALISED ACTIVITIES:

M. Kořán, MD is an economic secretary and member of the board of the Union of Psychological Societies CR which is interconnected with the Chamber of Psychology CR. He cooperates with self-help organizations (ARCUS- Onco centre, Czech association of victims of traffic accidents).

On 15 March 2010, the Ministry of Health granted accreditation to the Na Homolce Hospital for clinical psychology and a new accreditation for the same specialisation on 14 June 2012. In 2014, workshops

of the Department were again included in the accredited system of education approved by the Association of Clinical Psychologists. The workshops are intended for applicants for Postgraduate Certificate as well as for participants in lifelong learning. Details about the workshops are available at the website of the Department and of the Association of Clinical Psychologists.

L. Krámská, MA, PhD is the founding member and chairwoman of the Czech Neuropsychological Society and is involved in development of the discipline of neuropsychology in the Czech Republic. In December 2014 she underwent a study stay at the University of Miami, Miller School of Medicine, Department of Neurology, Neuropsychology Unit headed by Prof. Levin.

J. Procházková, MA supervised during the whole year 7 undergraduate and postgraduate students of psychology mainly from the Faculty of Education, Charles University.

### BASIC DATA FOR 2014

**Number of psychologists** – 3 of them with a Postgraduate Certificate (of which one part-time)

### Number of psychological interventions in inpatients:

	Number of interventions
Individual systematic psychotherapy - 30 minutes:	114
Specific psychological intervention - 30 minutes:	3438
Targeted psychological examination - 60 minutes:	760
Follow-up psychological examination - 30 minutes:	464
Psychodiagnosis with a complicated psychotherapeutic intervention	20

### Number of outpatient interventions:

Individual systematic psychotherapy - 30 minutes	633
Comprehensive psychological examination - 60 minutes	107
Targeted psychological examination - 60 minutes:	621
Follow-up psychological examination - 30 minutes	43
Specific psychological intervention - 30 minutes	154
Clinical psychologist´s interview with family members - 30 minutes	11



Consultation by phone - 10 minutes	12
Psychodiagnosis with complicated psychotherapeutic intervention 90 min:	152
Group therapy 90 minutes	48

The total number of points achieved: **2 178 0591**, of which **781 603** points concerning inpatients (General Health Insurance Company **418 874** points). The number of points achieved is negatively influenced by long-term absence of Mgr. J. Žmolíková (maternity leave) and problems with adequate filling of the vacant position.

### OUTLOOK FOR 2015

To continue to provide a high quality psychodiagnostic and psychotherapeutic care to both inpatients and outpatients in the Na Homolce Hospital (where necessary also to the hospital employees). To continue to participate in training within the accreditation procedure (theoretical-practical and practical programmes in clinical psychology) and cooperate with the Philosophical Faculty and Faculty of Education of Charles University in undergraduate and postgraduate education, to organise, as an accredited centre of the Ministry of Health, study stays within postgraduate education in clinical psychology.

To participate in standardisation of neuropsychological methods and procedures for the Neuroprogramme of the Na Homolce Hospital, to develop psychotherapy and cognitive rehabilitation of patients with neurocognitive deficits.

### R&D ACTIVITIES:

- research follow-up of patients (e.g. with epilepsy, after ischemic stroke etc.) – cooperation with the Epilepsy Centre and Department of Neurology
- cooperation with the Department of Radiodiagnostics in developing medical examination paradigm by means of fMRI with a focus on higher mental functions (memory, speech etc.)
- cooperation with the Department of Stereotactic and Radiation Neurosurgery in examination of patients with epilepsy, obsessive-compulsive disorder etc. prior to and after surgery.
- cooperation with the Department of Neurosurgery in awake brain surgeries, monitoring of patients with EC-IC by-pass, elective aneurysm etc. prior to and after surgery

- development of R&D cooperation with the Prague Psychiatric Centre and 1st Faculty of Medicine, Charles University – differential diagnosis and methodology research issues
- organisation of a postgraduate course in clinical neuropsychology of adults

## ■ DEPARTMENT OF PHYSIOTHERAPY AND PHYSICAL MEDICINE

**Head of the Department: Ivan Hadraba, MD**

### ACTIVITIES OF THE DEPARTMENT

The department provides comprehensive diagnostics and therapeutic care to restore physical abilities of disabled patients.

The care is provided both to inpatients and outpatients of the hospital as well as to patients from other regions.

Specialised care includes orthopedic-prosthetic treatment provided to all patients of the hospital in cooperation with external prosthetic and orthotic centres.

### ORGANISATIONAL UNITS OF THE DEPARTMENT

According to the valid rules of organisation of the Na Homolce Hospital, the Department of Physiotherapy and Physical Medicine is part of the section of the therapeutic and preventive care.

The outpatient unit consists of reception desk, outpatient departments, hydrotherapy unit, rooms for physiotherapy and physicaltherapy.

### BASIC DATA

#### Number of employees at the end of 2014 in FTE:

Doctors . . . . .	4
Head physiotherapist . . . . .	1
Physiotherapists . . . . .	27.56
Nursing staff . . . . .	4
Supporting nursing staff . . . . .	4
Administrative staff . . . . .	1

Services of the Department are available daily between 6.45 a.m. and 5.45 p.m.

## PERFORMANCE OVERVIEW

Number of interventions performed by doctors in 2014 - 28 354

Number of interventions performed by other staff members in 2014 - 209 443

Total number of interventions in 2014: 237 797

## EVENTS OF 2014

### Regular activities:

On a weekly basis – specialised consultations provided by physiotherapists and Head of the Department

- meetings of the Head of the Department with doctors and the senior physiotherapist concerning organisation of the operation of the Department
- meetings of the senior physiotherapist with both medical and non-medical staff of the Department
- consultations provided by doctors and physiotherapists, concerning incontinence
- consultation within the McKenzie method

On a monthly basis - specialised workshops for the staff of the Department organised by doctors and physiotherapists

- consultations focused on vocal cords diseases between doctors and physiotherapists, later also with Mr. Fryč, RND, from the Film Academy of Performing Arts.

On a quarterly basis – operational meetings of the whole Department

An interdisciplinary conference on physiotherapy was organised for the sixth time by the Department in cooperation with doctors and nurses of the hospital, that was attended also by external lecturers.

The Department continued to organise specialised workshops for doctors and physiotherapists in cooperation with doctors from other wards of the hospital and specialised workshops and courses with external lecturers.

JCA reaccreditation was prepared and accomplished.

### SPECIALISED ACTIVITIES:

Physicians and physiotherapists completed and presented at XXI Congress of Physiotherapy and Physical Medicine 2 long-term projects accomplished in cooperation with the ENT Department and De-

partment of Urology of the Na Homolce Hospital and other external facilities:

Treatment of urinary incontinence in women and treatment of urinary incontinence in men after robot-assisted radical prostatectomy

Comprehensive physiotherapy for voice disorders – physiotherapy for voice and re-education, examination of the voice field by a device developed in the R&D laboratory of the Academy of Performing Arts in Prague, electrostimulation treatment of vocal cord disorders

Methodological procedures were developed and introduced in this field.

Specialised physiotherapy is traditionally provided to patients with tympanophony.

Physiotherapy and prosthetic treatment is provided also to patients of the Department of Vascular Surgery after lower limb amputations.

A special treatment programme continues in cooperation with the Department of Neurosurgery, intended for patients with vertebro-genic disorders not indicated for urgent surgery. Coordination of the treatment with physiotherapy allowed also treating of patients from outside Prague. This permanent project of a comprehensive approach was supplemented in the last year with the McKenzie method, and monitoring of therapeutic outcomes in patients with MRI verified sequestration was introduced within cooperation of Department of Physiotherapy and Physical Medicine, Neurosurgery and Radiology.

Specialised physiotherapeutic procedures were further developed for patients after TAA surgery in cooperation with the Department of Vascular Surgery of the Na Homolce Hospital.

## OUTLOOK FOR 2015

The plan includes:

- Organisation of VIIIth conference of doctors specialised in rehabilitation and physical medicine and other disciplines, and physiotherapists
- Specialised workshops for physiotherapists and doctors in cooperation with external lecturers
- Participation of doctors, physiotherapists and other staff in congresses, specialised workshops and courses
- Continuous care provided to patients with urinary incontinence in cooperation with the Department of Gynecology and Urology of the Na Homolce Hospital and other Prague centres

- Continuous therapeutic rehabilitation of vocal cords, or stimulation in recurrent nerve paresis in cooperation with ENT Department of the Na Homolce Hospital and other ENT Departments in the region
- Further development of the established specialised treatment with the use of the Mc Kenzie method for patients included in the neuroprogramme
- Active participation of a doctor and physiotherapist of the Department in the 2015 rehabilitation congress, on urinary incontinence
- Re-submission of the proposal for reconstruction of the remaining part of the Department – the investment plan of 2011, that was not implemented
- Establishment of specialised physiotherapy departments according to diagnoses of individual departments of the hospital, concerning both conservative treatment and postoperative conditions
- Development and introduction of the feedback method in postoperative restoration of motion stereotypes in orthopedic, neurological and neurosurgical patients
- Introduction of rehabilitation and physiotherapy of functional disorders of the digestive system
- Coordination of specialised interdisciplinary team care for lower-limb amputees, training of gait with prosthesis
- Development of physiotherapy guidelines for patients after arterial aneurysm surgery
- Establishment and management of a cardio zone for cardiology patients
- Specialised care provided to commercial clientele with musculoskeletal disorders, i.e. commercial services in the form of reconditioning, relaxation and training programmes

Due to the commencement of negotiations to build an inpatient ward in the Department, the original plan for 2015 will have to be adjusted in order to reflect operation of this part of the Department.

## ■ DENTAL OUTPATIENT DEPARTMENT

**Senior Physician of the Department: Petr Kolčava, MD**

### ACTIVITIES

- Providing outpatient dental care
- Providing preventive outpatient dental care
- Providing acute outpatient dental care
- Providing consulting service to patients from other departments of the hospital

The given range of outpatient dental care was provided to outpatients and inpatients, contractual partners of the hospital and foreigners.

### BASIC DATA

In 2014, the Dental Department had two dental care units with one doctor working full-time and one doctor working part-time, and 1 nurse.

### PERFORMANCE OVERVIEW

In 2014, a total of 6597 patients were examined and treated.

### EVALUATION OF CLINICAL ACTIVITY

The number of examined and treated patients was similar to that in the previous year. Such a high number was achieved particularly due to a highly efficient organisation of work and extension of working hours, e.g. by treatment of painful conditions before the official working hours.

In 2014, the Department maintained its economic stability and further reduced its operating costs.

### CHANGES AND EVENTS IN 2014

No personnel changes were made in 2014.

In the field of therapeutic care the Department continued to cooperate with the department of dental surgery (Head Assoc. Prof. J. Podstata) 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 replacement, so called Maryland bridge. An increased number of patients were also treated with the ZX-27 glass abutment system and of patients treated with conditionally removable replacements and all-ceramic replacements. A new method of increase of retention of the lower total replacements with the use of locators was introduced.

In 2014, JCI accreditation was successfully defended.

### **OUTLOOK FOR 2015**

The priority in 2015 will be filling the vacant position of dental hygienist (part-time).

The Department will continue to cooperate with dental surgery department in treatment of patients with dental implants, prosthetic treatment with the use ZX – 27 abutment technology, Maryland Bridge and home bleaching. After completion of the respective training, the Vanini's stratification technique will be used in composite treatment. In cooperation with the prosthetic laboratory a new anti-snoring system Silensor will be used in selected patients as well as mouth guards to prevent teeth grinding, indications will be extended for all-ceramic replacements of veneer-type, and the capacity will be increased for production of total replacements using locators in order to increase their retention.

Although dental care is a complementary service in the system of the Na Homolce Hospital, the staff of the Dental Department will make every effort to maintain the comprehensive range and high quality of the provided services.



# SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

## ■ DEPARTMENT OF RADIODIAGNOSTICS

**Head of the Department: Professor Josef Vymazal, MD, DSc.**

In 2014, the Department provided services both to the hospital and to other healthcare facilities, including 24-hour support. The range of activities included diagnostic examinations, using radiodiagnostic technology, with special emphasis on diseases of the nervous, locomotory and cardiovascular systems, as well as on vascular and non-vascular interventions.

In the field of treatment of vascular diseases, the Department continued to cooperate last year with vascular and cardiac surgeons within the programme of implantation of stents grafts in aneurysms of the abdominal and thoracic aorta and pelvic vascular system.

The Department continued developing the programme of endovascular neuroradiology interventions, namely the treatment of brain aneurysms by removable coils and, where necessary, with use of stents to carry out remodelling techniques. New types of remodelling stents were introduced, as well as stents with a thicker weave, that induce a change of the blood flow in the artery and the aneurysm. A change in hemodynamics of the supplying artery results in spontaneous thrombosis of the aneurysm in the field of neck and its marked retraction. Thus the pressure of aneurysm on the surrounding structure is significantly reduced.

A new, two-component adhesive Onyx has been used on a regular basis that enables treatment of intracranial arteriovenous malformation in the area of the spinal canal. It was used also in malformations in other locations.

In addition to using intra-arterial thrombolysis, the revascularisation 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 thrombus. The recanalisation methods continued to be applied where a special fully-retractable stent was used for cerebral arteries to withdraw a thrombus from the artery. Na Homolce Hospital is one of ten accredited comprehensive cerebrovascular centres where CT, MRI and endovascular interventions are available round-the-clock.

In the treatment of the stroke based on the occlusion of the deep venous system and sinuses, the method was newly introduced (also globally) of superselective catheterisation directly to the deep cerebral veins followed by local thrombolysis and recanalisation of the deep veins and sinuses.

The double-projection angiograph, Axiom Artis (Siemens), focused on neuro-radiological examination and with its excellent post-processing and sophisticated navigation software, has expanded the therapeutic possibilities for vascular interventions of the head, spine and other parts of the body. The Department follows the latest trends in this field and chooses new technologies and materials for its own application.

In the field of non-vascular methods, the number increased of percutaneous, vertebroplastic and kyphoplastic non-vascular procedures carried out for the treatment of compression fractures due to vertebral osteoporosis or of other origin. Na Homolce Hospital is one of the leading Czech health facilities in intervention radiology, where, for example, the newly introduced method of kyphoplasty, i.e. – the insertion of a stent into the vertebral body, is being carried out.

Since December 2010, the department has used the latest dual-source CT Siemens Somatom Flash, which has considerably improved the potential of CT diagnostics. In 2012, the device was retrofitted with the interactive reconstruction system (SAPHIRE) which contributes to a considerable reduction of the exposure to radiation during CT examinations.

There was an increase in the number of CT examinations of the heart, including CT coronarography with much higher image quality and with considerably lower exposure of patients to radiation. CT perfusion examination of the whole brain was carried out on a regular basis, in acute ictus.

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

For several years now, examination by intraoperative magnetic resonance imaging (IMRI) has been performed on a regular basis,

using the equipment installed in the neurosurgery operating theatre. The number of perioperative magnetic resonance imaging examinations continued to grow in 2014. The device is also used for regular magnetic resonance imaging when it is not in use by the operating theatres, which has contributed to reduction of the waiting time and increase of the number of examinations carried out. In the assessed period the Department carried out MRI spectroscopic examinations, by both SVS and CSI, on 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 neuronavigation and deep brain stimulation has been further developed. In addition to clinical routine use, the Department uses these technologies for research. The results were published in several foreign journals with impact factor.

The programme of MRI heart examination has continued, including as a standard the phase contrast sequences to image and quantify blood flow, which is mainly important for valvular and short-circuit defects of the heart. The total number of CT and MRI examinations of congenital heart defects again increased in 2014.

In 2014, the Department launched in cooperation with the Department of Cardiology the programme of examinations focused on stress myocardial perfusion imaging in patients with ischemic heart disease.

Since 2012, the Department has used MRI angiography of renal arteries without the use of contrast medium, which was made possible by retrofitting the Magnetom Avanto MRI with more accurate technology (NATIVE).

The Mammography clinic belongs to a network of accredited clinics and is equipped with a Planmed Nuance Excel with direct digitisation.

The number of mammography examinations performed in the Na Homolce Hospital keeps growing. Patients with unclear mammography and ultrasound findings are indicated for MRI examination of breast performed also by the Department.

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

All radioscopic image documentation is digitally stored in the hospital's information system and is available to doctors within the entire hospital. All operations of the Department of Radiodiagnostics have been fully digitalised, i.e. no films have been used since 2009.

Since 2011, the Department has used 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.

Standard procedures are available on the intranet of the Department of Radiodiagnostics.

In 2014, the Department of Radiodiagnostics was involved in 1 **grant project:**

NT12094-5 Multidisciplinary approach in diagnostics of frontotemporal lobar degenerations and tauopathy: comprehensive analysis of pathogenic mechanisms

Principal investigator: Thomayer Teaching Hospital – Radoslav Matěj, MD, PhD

### **Technical equipment**

Angiography unit 1x Multistar Siemens

1x Siemens Axiom Artis biplane

1x OEC 9700 for operating theatre

CT unit 1x Siemens Somatom Flash (2x128)

1x Siemens Sensation 16

MR unit 1x Magnetom Avanto 1,5 T

1x Magnetom Symphony 1,5 T

1x Siemens Skyra 3 T

1x GE Signa HDx (neurosurgery operating theatres) 1,5 T

UZ 2x Toshiba Aplio

1x Toshiba Eccocee

1x GE Logiq 9

1x GE Logiq E9

Mammography 1x Planmed Nuance Excel

Basic equipment - 3 sciascopic and sciagraphic units, mobile x-ray equipment, PACS workstations, scanners, printers, data archives

## Replacement of devices

In 2013, ultrasound examination was replaced by doppler ultrasound examination of blood vessels and a new MRI device was acquired, with 3 Tesla magnetic field.

In 2015, the Department plans to acquire a new radiological unit with direct digitization, a new angiographic device and a new CT scanner.

## Basic personnel data

Number of doctors	28
Number of laboratory technicians	31
Number of general nursing staff	9
Number of administrative staff	10
Supporting healthcare staff	2

## Specialised interventions and therapeutic procedures in 2014

PTA (with or without stent implantation)	395
Endovascular treatment of cerebral aneurysms (coils, stents)	37
Recanalisation of cerebral arteries in acute CMP	30
Local thrombolytic and PTA/stent of extracranial arteries	23
Local thrombolytic and PTA/stent of intracranial arteries	13
Embolization in neuronal area (cerebral, spinal AVM)	13
CT guided interventions	2 372
of which targeted nerve root and facet joint injections	2 053
Vertebroplasty + kyphoplasty	216
Radiofrequency ablations	11
CT guided biopsies and drainages	92

## Overview of selected radiodiagnostic examinations in 2014

Computer tomography	11 418
Magnetic resonance	12 183
Angiography	3 380
US examinations	14 648
Mammography	14 465
of which screening	13 057
Ultrasound examination within diagnostic mammography	2 900
Breast node biopsies	209
Total number of radiodiagnostic examinations	99 018

## PLANS FOR 2015

The new 3T MRI device will be used to develop the latest techniques, such as functional MR BOLD imaging, MR tractography and diffusion tensor imaging, MRI spectroscopy. All these procedures will be used to increase accuracy of diagnostics of neurological diseases, e.g. in epilepsy. Examination sequences will be optimized in order to ensure a maximum use of the potential of the device. In addition to the clinical routine, the new device will be used partially also for scientific applications. In addition to the grant (see above), the Department is involved in scientific preparation of postgraduates in the field of imaging methods and neurosciences. In 2015 it will continue to cooperate with the Czech Technical University in training of postgraduates in biomedical engineering. It has established scientific cooperation also with the Siemens company, which will facilitate addressing technical problems in order to ensure the highest possible quality of imaging. In terms of improvement of neck and head imaging, it would be beneficial to combine the use of 64-channel coil providing a better signal-to-noise ratio and homogeneity of measuring with upgrade of the systems allowing to use at least 64 channels.

The Department also plans to improve diagnostics by MRI examination of the prostate and breast. 3T MRI will be useful also in examination of joints and MRI angiography. In cooperation with the Department of Cardiology the Department will continue in the programme of stress tests of myocardial perfusion, using MRI.

The number of MRI breast examinations will be further increased and the Department also plans to introduce MRI controlled targeted breast biopsy.

The Department will also focus on improvement of functionality, quality and user comfort of the information technologies used, NIS and PACS systems in particular. The plan for 2015 includes implementation of electronically signed medical records, secured website interface for access to the NIS/PACS systems, increase of the number of multi-monitor description stations, integration of 3D function into the PACS system. Another focus is interconnection of image databases of the Department of Nuclear Medicine and the Department of Radiodiagnostics, ensuring availability of image data from the Department of Cardiology through the PACS system etc.



During its existence in the Na Homolce Hospital, the Department of Radiodiagnostics has significantly increased the number of staff and its production which has resulted in problems associated with lack of space. Therefore the Department supports the long-term concept of building a new facility for the Department of Gastroenterology which occupies the west wing of building D, and using these premises for the Department of Radiodiagnostics.

## ■ DEPARTMENT OF NUCLEAR MEDICINE / PET CENTRE

**Head of the Department: Assoc. Prof. Otakar Bělohávek, MD, PhD**

### ACTIVITIES OF THE DEPARTMENT

- scintigraphic functional imaging, including PET/CT method
- immunoanalytical laboratory examination methods

### ORGANISATIONAL UNITS OF THE DEPARTMENT

- nuclear medicine unit
- immunoanalytical laboratory
- radiopharmaceutical laboratory

### BASIC DATA

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

### Personnel (as of 31.12.)

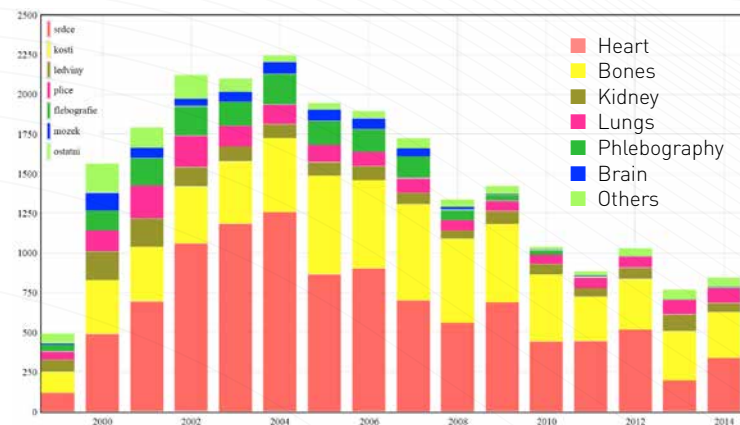
Profession	Number of persons	FTE
Assistant (Technical-administrative)	1	1.0
Pharmaceutical assistant	1	1.0
Doctor	8	7.6
Specialist in laboratory methods and in preparation of medical products	2	2.0
Radiological assistant	6	6.0
Paramedical staff	1	1.0
General nursing staff	6	6.0
Laboratory technician	5	5.0

- Services of the radiological physicist are provided by the physical medicine department.

## PERFORMANCE OVERVIEW

### Scintigraphy

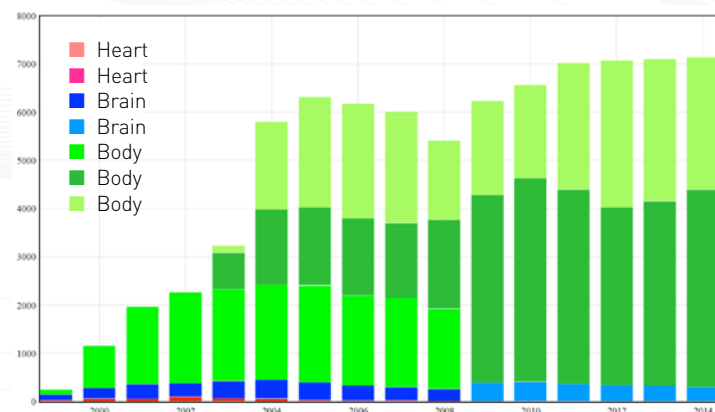
Number of examinations: 816 (increase by 12.6% as compared to the previous year). All examinations are made with the use of dual-detector camera Siemens E.CAM.



### Positron emission tomography

Number of examinations: 7 131 (increase by 0.5% as compared to the previous year)

All examinations were performed by two hybrid PET/CT scanners Siemens Biograph. Radiopharmaceuticals for PET are supplied by the winner of the respective tender (Radiomedic, s.r.o.).

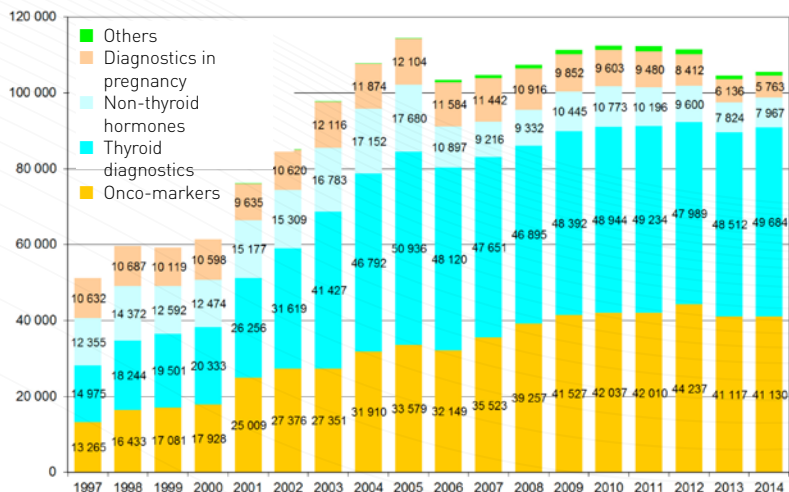


## Laboratory examination methods

Number of interventions: 138 158 (increase by 1.1% as compared to the previous year)

Number of assays: 105 495 (increase by 0.9% as compared to the previous year)

Examinations are performed by RIA (18 %), IRMA (26 %) and chemiluminescence (56 %) methods.



## EVALUATION OF CLINICAL ACTIVITIES

In 2014, the production in the field of PET diagnostics was again quite high as compared to other European centres, exceeding 7100 examinations annually. The Department uses two hybrid PET/CT scanners Biograph (Siemens). The interest of clinicians in PET/CT examination was again enormous and slightly exceeded the historical maximum of the previous year. The waiting time for patients outside the Na Homolce Hospital ranged around 3 weeks. The number of examinations performed is limited by the system of refunding by health insurance companies.

The operation of the conventional scintigraphic diagnostics was in 2014 influenced by two factors: 1) Re-opening of the Department of Nuclear Medicine in the Central Military Hospital reduced tempo-

rarily the interest of external individuals. 2) Putting into operation of the repaired ergometer in the Department of Cardiology allowed to resume myocardial perfusion examinations. Nevertheless the unavailability of this method for half a year resulted in the change of focus of the Department on other examination techniques, and so only 70% of the myocardial examinations were performed as compared to 2012, i.e. prior to the breakdown of ergometer. The total number of all examinations increased by 13% as compared to the previous year. As compared to the comparable year 2011, i.e. without the impact of the temporary decrease of interest due to the Department of Nuclear Medicine in the Central Military Hospital and breakdown of the ergometer, the number of examinations is lower by less than 4%, which indicates a gradual stabilization of this diagnostics after its marked long-term decrease caused by development of alternative radiodiagnostic methods and PET/CT.

In the immunoanalytical laboratory, the decrease slowed down in the number of diagnoses of congenital developmental defects, that was compensated by a slight increase in other segments of the laboratory, resulting in 1% increase in the diagnoses made. The results of regular independent interlaboratory inspection and accreditation by the Czech Accreditation Institute (ISO 15189:2013) document a traditionally high quality of the laboratory in the long run.

The Department of Nuclear Medicine showed stability in terms of personnel in 2014. The Department as a whole has an established certified system of quality management pursuant to the standard ISO 9001:2008 and as a part of the hospital it follows the international JCI accreditation standards. Due to lack of interest of potential applicants it was impossible to complete in the previous year tenders for the supply of <sup>99</sup>Mo/<sup>99m</sup>Tc generators and radionuclide phantoms.

## CHANGES/ NEW EVENTS IN 2014

- January - adding registration of radionuclide radiators to the QuaMan SW system
- February - successful completion of the reaccreditation audit of the Czech Accreditation Institute according to the amended ISO 15189:2013

- February - preparation of source materials for a tender for immunoassay kits and their submission to the respective department (the procedure has not been launched, yet)
- March - creation of a library for outpatients with the possibility of free circulation of books
- March - maternity leave of pharmaceutical assistant /laboratory technician
- April - preparation of a positive list of medical drugs used in the outpatient department and its implementation in the QuaMan SW system
- April - optimisation of management of scanner operation in the outpatient department by QuaMan SW system
- June - maternity leave of a doctor (working part-time)
- June - preparation of a new standard treatment procedure and the initial preparation of the radiopharmaceutical [<sup>99m</sup>Tc] TechnoScan Sestamibi chosen within the selection procedure
- June - successful completion of LL-C supervisory audit according to ISO 9001:2008
- July - laboratory technician – commencement of employment

## **PUBLICATIONS, EDUCATIONAL AND R&D ACTIVITIES**

### **Educational and other specialised activities**

- training of a postgraduate in biophysics;
- organising study stays in PET Centre for both domestic and foreign experts and consultations in implementation of the IAEA model project;
- membership of editorial boards:
  - European Journal of Nuclear Medicine and Molecular Imaging
  - Nuclear Medicine Review

### **Membership of professional societies**

- Czech Medical Chamber
- Czech Nuclear Medicine Society of the Czech Medical Association of J.E. Purkyně (scientific secretary)
- Czech Society of Gastroenterology of the Czech Medical Association of J.E. Purkyně
- Czech Society of Clinical Biochemistry of the Czech Medical Association of J.E. Purkyně

- European Association of Nuclear Medicine
- European Society of Radiology
- European Society of Gastrointestinal and Abdominal Radiology
- Cardiovascular and Interventional Radiologic Society Europe
- Association of Radiology Assistants of the Czech Republic
- Czech Association of Nurses

### **Grants and R&D activities**

- Participation in the grant IGA MZd ČR NT12331: Early assessment of efficiency of neoadjuvant chemotherapy for esophageal carcinoma and esophagogastric junction by means of FDG-PET/CT examination.
- Participation in clinical assessment of medical drugs and drug therapy protocols.

### **Published studies**

BĚLOHLÁVEK, O. - FENCL, P. - MÁJOVSKÝ, M. - JARŮŠKOVÁ, M. - BENEŠ, V. FLT-PET in previously untreated patients with low-grade glioma can predict their overall survival. Nuclear Medicine Review CEE, 2014, vol. 17, no. 1, s. 7-12. ISSN 1506-9680.

NAAR, J. - MÁLEK, F. - LANG, O. - BĚLOHLÁVEK, O. - VRÁNOVÁ, J. - MRÁZ, T. - MANDYSOVÁ, E. - NEUŽIL PETR, P. Assessment of left ventricular diastolic function by radionuclide ventriculography in patients with chronic heart failure and reduced ejection fraction. Vnitřní lékařství, 2014, roč. 60, č. 2, s. 110-113. ISSN 0042-773X.

VIRTOVÁ, R. - GAZDIČ, T. - PIRK, J. - KOČKOVÁ, R. - BĚLOHLÁVEK, O. - KAMARÁDOVÁ, K. - KUBÁČKOVÁ, K. - KAUTZNEROVÁ, D. - VYDRA, J. - KAUTZNER, J. Vzácna metastáza myxoidního liposarkomu do srdečního mezikomorového septa. Cor et Vasa, 2014, roč. 56, č. 3, s. 329-333. ISSN 0010-8650.

### **Active participation in conferences and workshops**

SKOPALOVÁ, M. Postavení FDG-PET/CT v iniciálním stadiu nově diagnostikovaného karcinomu prsu ve stadiu I a II. Nukleární medicína, 2014, roč. 3, č. 3, s. 13. ISSN 1805-1146. Abstrakt: 51. dny nukleární medicíny, Seč - Ústupy, 12.11.-14.11.2014.

FENCL, P. - BĚLOHLÁVEK, O. - HARUŠTIK, T. - ZEMANOVÁ, M. The histologic/metabolic correlation of false negative and false positive FDG-PET/CT findings in the assessment of cN and ycN staging. An analysis of 1540 lymph nodes in 74 surgically treated patients with oesophageal adenocarcinoma. . ESGAR 2014, Salzburg, 18.6.-21.6.2014. A communication not published in press.

FENCL, P. - BĚLOHLÁVEK, O. - HARUŠTIK, T. Správnost FDG-PET/CT v průkazu metastatického postižení mízních uzlin u nemocných s adenokarcinomem gastro-esofageální junkce před a po neoadjuvantní chemoterapii. Prospektivní studie.. Gastroenterologie a hepatologie, 2014, roč. 68, č. S2, s. 2S32. ISSN 1804-7874. Abstrakt: 13. Vzdělávací a diskuzní gastroenterologické dny, Karlovy Vary, 4.12.-6.12.2014.

CHROBOK, J. - JARUŠKOVÁ, M. PET ve spinální chirurgii. Výroční kongres ČNCHS, Liberec, 10.12.-12.12.2014. A communication not published in press.

CHROBOK, J. - JARUŠKOVÁ, M. PET ve spinální chirurgii. VIII. Cadaver workshop , Brno, 1.12.-2.12.2014. A communication not published in press.

BĚLOHLÁVEK, O. PET, nukleární medicína. Konference lékařů posudkové služby pracoviště ČSSZ pro Prahu a Střední Čechy, Beroun, 23.4.-24.4.2014. A communication not published in press.

BĚLOHLÁVEK, O. Co vám ještě (ne)můžeme nabídnout. Moderní zobrazovací metody a jejich aplikace v diagnostice a léčbě, Roztoky, 4.2.-4.2.2014. A communication not published in press.

BĚLOHLÁVEK, O. Úloha PET/CT u sarkomů. Sarcoma 2014, Praha, 3.4.-3.4.2014. A communication not published in press.

OŠTÁDAL, P. - MLČEK, M. - KRÜGER, A. - SVOBODA, T. - HRACHOVINA, V. - TÁBORSKÝ, L. - DUDKOVÁ, V. - PSOTOVÁ, H. - KITTNAR, O. - NEUŽIL PETR, P. Ischemic post-conditioning and nitric oxide inhalation failed to demonstrate protective effect in comparison with mild hypothermia in porcine model of cardiac arrest. Resuscitation, 2014, vol. 85, no. Suppl 1, s. S12-S13.

ISSN 0300-9572. Abstract: Resuscitation 2014, Bilbao, Španělsko, 15.5.-17.5.2014.

BĚLOHLÁVEK, O. - JARUŠKOVÁ, M. FDG-PET u lačných pacientů s hyperglykemií. Nukleární medicína, 2014, roč. 3, č. 3, s. 4. ISSN 1805-1146. Abstrakt: 51. dny nukleární medicíny, Seč - Ústupy, 12.11.-14.11.2014.

BĚLOHLÁVEK, O. NaF-PET/CT skeletu. Nukleární medicína, 2014, roč. 3, č. 3, s. 4. ISSN 1805-1146. Abstrakt: 51. dny nukleární medicíny, Seč - Ústupy, 12.11.-14.11.2014.

### OUTLOOK FOR 2015

The plan is to make use of all technologies installed in the Department in the volume defined by refunding from health insurance. Emphasis will be put on quality and efficiency of the services provided.

The waiting time for patients outside the hospital will again be about 3 weeks in case of PET/CT examination. Performance of PET/CT diagnostics is endangered by a potential unrepairable defect of one of the scanners, as its spare parts are no longer available. Replacement of this scanner was repeatedly requested.

It is planned to announce new tenders for supply of radiopharmaceuticals for PET and material for immunoanalysis and to re-open of the so far unsuccessful tenders for the supply of <sup>99</sup>Mo/<sup>99m</sup>Tc generators and radionuclide phantoms. If contract(s) are concluded on the basis of the tender for supply of material for immunoanalysis, a principal change in the configuration of the work of the laboratory will have to be made, requiring enormous efforts of the staff in order to set up new examination procedures.

Supervisory audit of the Department of Nuclear Medicine pursuant to the standard ISO 9001:2008 and of the immunoanalytical laboratory pursuant to the standard ISO 15189:2013 have been scheduled for mid-2015.

## ■ DEPARTMENT OF CLINICAL BIOCHEMISTRY, HEMATOLOGY AND IMMUNOLOGY

### ORGANISATIONAL STRUCTURE

#### Management:

Head of the Department	Táborský Luděk, MD
Deputy Head of the Department	Maťoška Václav, MD
Senior laboratory technician	Mgr. Dvořáková Ludmila
Senior R&D worker	Assoc. Prof. Průcha Miroslav, MD, PhD

#### Sections of the Department:

Clinical Biochemistry <ul style="list-style-type: none"> <li>Material delivery and processing</li> <li>POCT (Point-of-care testing)</li> </ul>	Senior physician: Dvořáková Jana, MD Senior chemist: Ing. Dubská Ladislava
Hematology:	Balazs Jozef, MD
Transfusion unit and blood storage	Balazs Jozef, MD
Immunology	Sedláčková Lenka, MD
Laboratory of Molecular Diagnostics	Maťoška Václav, MD

#### STAFF

Employees total	Doctors:	11
	Other university graduates:	7
	Paramedical staff:	42
	Non-medical staff:	7
	Počet THP	5
	Technical-administration staff:	72

#### ACTIVITIES OF THE DEPARTMENT

**Routine measuring and consultation activities within the Na Ho-molce Hospital and the coverage area of Prague 5, 6 and 7 in the following specialisations:**

- Clinical biochemistry
- Clinical hematology
- Allergy and clinical immunology
- Blood transfusion
- Clinical pharmacology
- Molecular genetic diagnostic

#### Outpatient department activities

- Three outpatient departments for lipid metabolism disorders + Club for parents and children who suffer from hypercholesterolemia
- Hematology outpatient department

#### Educational activity

- Nationwide training and reference activities:
- Training centre of the subdepartment of the Institute for Further Education of Physicians for clinical immunology and allergy
- Training centre of the Department of Clinical Biochemistry of the Institute for Further Education of Physicians for automated urine sediment analysis systems
- Centre for further education in the field of hereditary metabolic disorders and lipid metabolism disorders - PhD training centre.

#### ACTIVITY REPORT FOR 2014

In 2014, the laboratory obtained accreditation pursuant to the standard ČSN EN ISO 15189:2007 – the Czech Accreditation Institute, with extension of the methods used.

In terms of economic data, the Department met the budget and volume of production planned for 2014. The offer of molecular allergens was extended by recombinant allergens of selected foodstuffs, allowing stratification of the risk of anaphylaxis in sensitized patients. The activities of individual sections are described in detail in the respective chapters (see the Contents ). The Department launched a number of public procurement tenders for devices and material supply for the Department pursuant to the new valid standards and legislation.

## CLINICAL BIOCHEMISTRY

Senior physician:

J. Dvořáková, MD

Head of biochemical laboratory:

Ing. Dubská Ladislava

University graduates:

J. Dvořáková, MD

J. Tichá, MD

Prof. J. Hyánek, MD, DSc.

Ing. B. Míková

Mgr. H. Pejznochová

### General characteristics of activities:

The Department provides routine biochemical services for clinical units in Na Homolce Hospital concentrating on diagnostics and treatment of critically ill patients in all departments. Bedside examination (POCT – point of care testing) of pH balance, selected minerals and glycaemia are carried out for the core departments with inpatients in critical conditions. Analyses of minerals, enzyme activity, substrate concentrations, cardio-marker levels, aminoacids, selected prohormones, vitamins, the full range of lipids, drugs and their metabolites, including pharmacokinetic analysis of concentrations measured, are made for all patients. The Department provides its service also to physicians in Prague 5 and 6 within collection of the material samples.

### 2014

- In June 2014 the whole Department completed re-accreditation process of the Czech Accreditation Institute pursuant to the standard ČSN EN ISO 15189:2013
- There are 14 acid-base balance analyzers in ICU and Department of Anesthesiology and Resuscitation, guaranteed by the biochemistry section and 2 new devices installed in the Department of Cardiac Surgery
- Cooperation continues with external laboratories in making rare analyses (methylmalonic acid, cholesterol precursors etc.)
- The number of the current range of biochemical analyses was maintained despite the limited budget
- Regular specialised workshops for the staff of the Department (both university graduates and general nursing staff)
- Continuous control of the response time in “stat” samples

- Monitoring of satisfaction of both physicians and patients with laboratory services
- High success rate in external control of the quality of laboratory examinations (93%)
- In all phases of laboratory examination (pre-analytics, analytics, post-analytics) minor deviations from the standard surgical procedures are monitored and documented
- Reagents, material for consumption and services are supplied exclusively by selected suppliers, that are regularly assessed on annual basis

## HEMATOLOGY

Senior physician:

J. Balázs, MD

University graduates:

R. Hoffmann, MD – 0.5 FTE

### General characteristics of activities:

Similarly as the clinical biochemistry provides routine services to the clinical departments, it performs specialised examinations of coagulation parameters for the hospital departments.

### 2014

- Addition of another two methods to the range of accredited methods
- Introduction of monitoring of the level of a new anticoagulant
- Improvement of analytical procedures in selected coagulation examinations
- Replacement of devices (coagulometer)

## TRANSFUSION CENTRE AND BLOOD BANK

Senior physician: MUDr. J. Balázs

### General characteristics of activities:

The Centre ensures blood supply and blood derivatives to the hospital clinical departments.

### 2014

The Department gradually introduces electronic requests for transfusion preparations in all hospital departments, including the possibility of feedback control of the number of prepared blood units and the performed immunohematological examination (cross-matching test).

It focuses also on improvement of automation of screening of antibodies and blood groups by Innova automatic analyser (Biovue). Cooling and freezing devices are centrally monitored in the whole Department in order to increase safety of patients using donor blood and blood derivatives.

## IMMUNOLOGY

Senior physician: L. Sedláčková, MD  
University graduates: Průcha Miroslav, MD, PhD

The Immunology Laboratory carries out a wide range of examination methods for both humeral and cellular immunity, the autoimmune status of organs and systems, and for allergies. It specialises in the diagnosis of sepsis in patients in a critical condition. The Allergy and Clinical Immunology Outpatient Department takes care of patients with allergies, immunodeficiency and immunopathological conditions. The latest innovation in outpatient examinations is used in patients who suffer from bronchial asthma. The examinations are carried out using a non-invasive method where the patient's exhaling function is tested for bronchial hyperactivity. The physicians provide consulting services to the hospital inpatient wards in the field of allergy and clinical immunology.

### 2014

The offer of molecular allergens was extended by recombinant allergens of selected foodstuffs, allowing stratification of the risk of anaphylaxis in sensitized patients.

L. Sedláčková, MD established a consultancy centre for drug allergies with a multiregional coverage. It is currently the only centre in Prague and one of the first centres in the Czech Republic to perform comprehensive diagnostics of allergy to penicillin-based antibiotics, including skin and provocation tests. L. Sedláčková, MD continued in her position of a coordinator of the Working Group for drug allergies of the Czech Society for Allergy and Clinical Immunology with a nationwide coverage. In 2014, she launched the project "In vitro detection of a late type of hypersensitivity to penicillin and amoxicillin by the ELISPOT method" under the grant of the Ministry of Health IP MZ ČR IG144102 focused on non-invasive diagnostics of the most frequent skin form of drug allergy to penicillin-based antibiotics.

Assoc. Prof. M. Průcha continued to cooperate with the Department of Cardiology (within the IGA grant agency), Department of Vascular Surgery (the BATAPPA study under an internal grant), Department of Anesthesiology and Resuscitation of the Teaching Thomayer Hospital (clinical study dealing with sepsis). He worked as a guarantor of the specialization of allergy and clinical immunology for the Czech Medical chamber (organisation of regular courses) and was involved in training courses at the Institute of Immunology of 2nd Faculty of Medicine, Charles University. He is the Editor-in-Chief of the book on Sepsis to be published by the Maxdorf Publishing House in 2015. Other lecturing activities and scientific publications are available in the database of publications of the Na Homolce Hospital.

## MOLECULAR DIAGNOSTICS LABORATORY

Senior physician: Maťoška Václav, MD  
University graduates: Mgr. Kumstýřová Tereza  
Mgr. Lacinová Zuzana  
Ing. Martinková Simona  
Mgr. Kaplan Vojtěch

### GENERAL CHARACTERISTICS OF ACTIVITIES

The Laboratory of Molecular Diagnostics uses molecular genetics to diagnose hereditary diseases and predisposition to common and serious diseases. Within the Na Homolce Hospital it specializes in issues according to the interest of individual hospital departments and according to the hospital plan of development. In addition to routine diagnostics, the laboratory also participates in clinical research projects.

### 2014

In 2014, the laboratory put into practice genetic examination for the pharmacogenetics of Diabigatran (Pradaxa) and extended this to assays for Clopidogrel efficacy genotyping based on polymorphism CYP2C19\*17.

The laboratory is involved in the IGA MZČR grant: NT 12385: Monitoring of biological efficiency of  $\beta$  interferons in the treatment of patients with sclerosis multiplex.

The laboratory passed successfully external quality controls (SEKK) for molecular diagnostics of selected diseases.

## ECONOMIC DATA FOR 2014

In 2014, the Department recorded the highest number of points in the last 8 years. For the first time, the number of inpatient interventions/points did not grow, while the number of points for outpatient treatment increased as compared to 2013. The economic data show that the Department is profitable.

TOTAL	2008	2009	2010	2011	2012	2013	2014
41 The Department, total	159 853 365	157 930 787	162 671 261	157 969 950	160 290 520	162 277 868	164 727 853
4140 Outpatient dept.	4 026 891	4 924 600	3 497 052	955 796	1 007 574	1 036 327	1 124 596
4171 Biochemistry	55 473 330	57 951 690	62 319 997	61 123 649	61 488 067	65 739 759	65 127 995
4172 Transfusion	4 115 936	4 883 258	4 910 144	4 872 252	4 929 309	5 018 415	5 103 984
4173 Hematology	18 778 299	20 198 168	21 387 839	22 233 075	23 568 405	24 130 783	23 068 911
4174 Immunology	31 495 548	31 934 233	33 920 319	32 424 908	33 121 996	34 662 419	34 453 695
4175 Liquorology	10 350 947	195 296	130 959	164 462	191 635	169 690	198 153
4176 Laboratory of molecular diagnostics	35 612 414	37 843 542	36 504 951	36 195 808	35 983 534	31 520 475	35 650 519

41 OKBHI	2008	2009	2010	2011	2012	2013	2014
Outpatients	121 717 446	116 379 248	114 285 663	109 011 730	108 307 927	107 185 475	111 657 900
Inpatients	38 135 919	41 551 539	48 385 598	48 958 220	51 982 593	55 092 393	53 069 953

## 2014 COSTS

2008	2009	2010	2011	2012	2013	2014
148 752 708	159 065 345	147 052 894	146 283 130	155 182 112	150 094 793	146 306 456

## WEIGHTED EFFECTIVENESS OF INDIVIDUAL CENTRES IN 2014 (regardless of the fact that inpatient treatment is funded differently)

	points	costs	point scoring	profitability (*)	effectiveness (*)	weighted effectiveness (*)
41 Department of Clinical Biochemistry, Hematology and Immunology	164 727 853	146 306 456		9 533 600	7 %	
4140 Ambulance	1 124 596	7 655 278	0,7	-6 856 776	-90 %	-72 %
4171 Biochemistry	65 127 995	58 288 238	0,7	8 333 745	14 %	88 %
4172 Transfusion	5 103 984	7 966 514	0,7	-4 372 638	-55 %	-46 %
4173 Hematology	23 068 911	12 526 367	0,5	-877 716	-7 %	-9 %
4174 Immunology	34 453 695	19 507 207	0,7	4 761 972	24 %	50 %
4175 Liquorology	198 153	1 243 305	0,7	-1 069 990	-86 %	-11 %
4176 Molecular diagnostics laboratory	35 650 519	8 210 257	0,5	9 615 002	117 %	101 %

\*profitability

\*effectiveness

\*weighted effectiveness

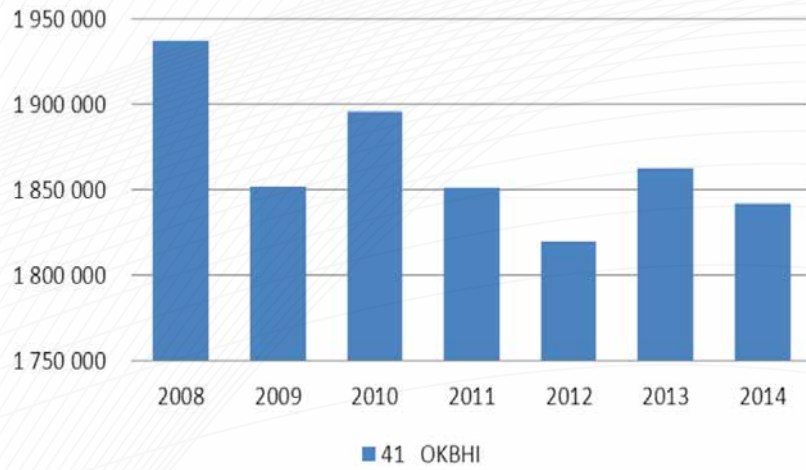
theoretical profit of the centre (regardless of different factors, such as unique birth registration numbers etc.)

effectiveness of the use of the centre's own costs, i.e. the profit per 1 CZK of costs

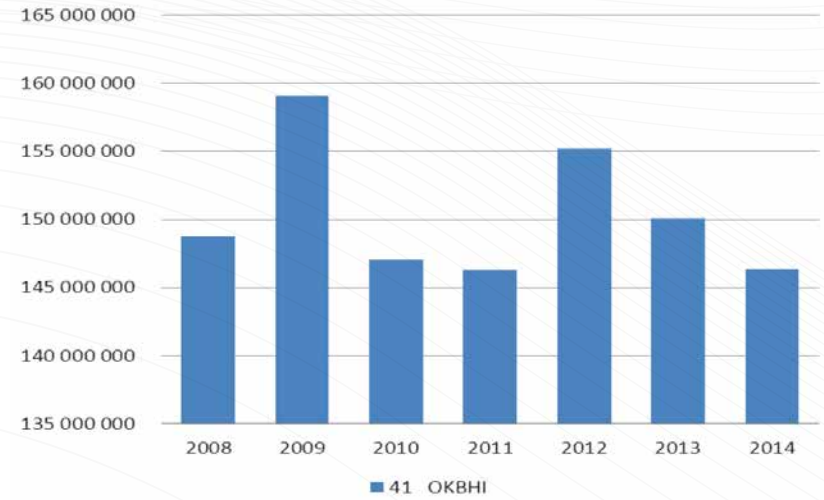
effectiveness of the centre in relation to the whole department, i.e. what percentage of the profit is generated by the centre



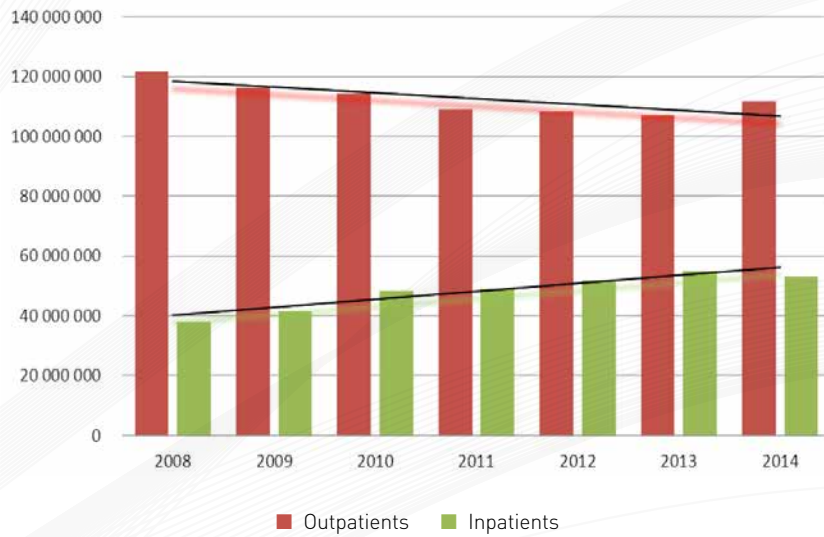
### 2014 costs



### 41 OKBHI



### Production of points



## OUTLOOK FOR 2015

- replacement of devices for diagnostics of humoral immunity through a public procurement tender in order to achieve savings in the purchase of reagents
- extension of diagnostics of molecular allergens; a change in the method in selected allergens from the current inadequately sensitive disc method to a highly accurate fluoroimmunoassay
- introduction of molecular genetic testing for coeliac disease (DQA1\*0501; DQB1\*0201)
- opening additional public procurement tenders for the supply of devices and material for the Department pursuant to the new valid regulations and legislation.

## PROJECTS AND GRANTS

### Grants under way in the Department in 2014

- Number: IGA MZČR: NT 12385  
Title: Monitoring of biological efficiency of  $\beta$  interferons in the treatment of patients with sclerosis multiplex  
Principal investigator: Maťoška Václav, MD (co-investigator)  
Title: BATAPPA study within internal grant  
Principal investigator: Assoc. Prof. Průcha Miroslav, MD, PhD

## PUBLICATIONS, PROFESSIONAL AND EDUCATIONAL ACTIVITIES

### Articles:

- PRŮCHA, M. - BELLINGAN, G. - ZAZULA, R. Sepsis biomarkers. Clinica Chimica Acta, 2015, vol. 440, no. C, s. 97-103. ISSN 1873-3492.
- PRŮCHA, M. Systémová zánětlivá reakce. In Intenzivní medicína. Praha: Galén, 2014, s. 229-231. ISBN 9788074920660.
- SEDLÁČKOVÁ, L. Lékové hypersenzitivní reakce: Současný diagnostický přístup a zpráva o založení Pracovní skupiny pro lékové alergie v ČSAKI. Alergie, 2014, roč. 16, č. 1, s. 47-51. ISSN 1212-3536.
- PRŮCHA, M. - ZAZULA, R. - HEROLD, I. - DOSTÁL, M. - HYÁNEK, T. - BELLINGAN, G. Presence of hypogammaglobulinemia in patients with severe sepsis, septic shock, and SIRS is associated

with increased mortality. Journal of Infection, 2014, vol. 68, no. 3, s. 297-299. ISSN 0163-4453.

DOSTÁL, M. - PRŮCHA, M. - RYCHLÍKOVÁ, E. - PASTORKOVÁ, A. - ŠRAM, R. Differences between the spectra of respiratory illnesses in children living in urban and rural environments. Central European journal of public health, 2014, roč. 22, č. 1, s. 3-11. ISSN 1210-7778.

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### Congresses/Abstracts:

PRŮCHA, M. PCT v diagnostice sepse. In Sborník příspěvků 16. roční Colours of sepsis, Ostrava, 21.1.-25.1.2014. Ostrava: KARIM Ostrava, 2014. s. 51-52. ISBN 978-80-260-5812-0.

SEDLÁČKOVÁ, L. Pracovní skupina pro lékové alergie v ČSAKI. Alergie, 2014, roč. 16, č. Supplementum 2, s. 22. ISSN 1212-3536. Abstrakt: XXXI. sjezd ČSAKI, Ostrava, 15.10.-18.10.2014.

SEDLÁČKOVÁ, L. Alergie na ATB. Vybrané kapitoly z infekce a vakcinologie, Mělník, 23.10.-23.10.2014. A communication not published in press.

PRŮCHA, M. - SEDLÁČKOVÁ, L. - ŠTÁDLER, P. - KOLOMBO, I. Ormondova choroba-IgG4 asociované onemocnění. Alergie, 2014, roč. 16, č. Supp.2, s. 41. ISSN 1212-3536. Abstrakt: XXXI. sjezd českých a slovenských alergologů a klinických imunologů, Ostrava, 15.10.-18.10.2014.

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kardiovaskulární chirurgie, Brno, 9.11.-11.11.2014. A communication not published in press.

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#### Professional societies

- Czech Medical Association of J.E. Purkyně
- Czech Society of Clinical Biochemistry
- Czech Society for Atherosclerosis
- Czech Society for Allergy and Clinical Immunology
- Czech Society for Immunology
- Czech Society of Neurology
- Czech Society for Clinical Cytology
- Czech Society for Liquorology and Neuroimmunology
- Czech Pediatric Society
- European Atherosclerotic Society
- Immunocompromised Host Society
- EFNS Scientific Panel for CSF
- European CSF Consensus Group

- Society for Study of Inborn Errors of Metabolism
- American Association of Clinical Chemistry
- American Heart Association
- International Federation of Clinical Chemistry
- International Society for Newborn Screening
- European Society for Newborn Screening

## DEPARTMENT OF CLINICAL MICROBIOLOGY AND ANTIBIOTIC SURVEILLANCE

Head of the Department: Václav VANIŠ, MD

### CLIENTELE

- Na Homolce Hospital
- External clientele

Table 1: Number of external healthcare facilities and outpatient departments

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

### LABORATORY DIAGNOSTICS

#### Examinations for Na Homolce Hospital

Table 2: Requests for microbiology examinations for Na Homolce Hospital

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

## Examinations for external clientele

Table 3: Requests for microbiology examinations requests for external clientele

Year	Bacteriology	Serology	Total	No. of outpatient depts.
2003	47 969	9 989	57 958	187
2004	54 209	11 889	66 098	185
2005	49 001	10 290	59 291	217
2006	35 680	6 460	42 140	177
2007	36 687	6 631	43 318	163
2008	40 086	7 595	47 681	141
2009	33 564	4 705	38 269	132
2010	18 876	3 624	22 500	107
2011	17 804	3 409	21 213	101
2012	25 144	3 381	28 525	103
2013	23 218	3 261	26 479	95
2014	17 353	2 376	19 729	97

## Microbiological examinations total

Table 4: Requests for microbiological examinations total

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

## ANTIBIOTIC CENTRE

### Consultations provided by the Antibiotic Centre medical staff

Table 5: Consultations provided for inpatients of Na Homolce Hospital

Years	Number of consultations	Number of patients
(total)	6 960	1 559
2004	7 291	1 622
2005	8 493	1 833
2006	7 922	1 870
2007	8 122	1 964
2008	7 847	2 006
2009	8 026	1 936
2010	8 049	2 051
2011	8 837	2 266
2012	9 280	2 782
2013	10 021	3 004
2014	10 215	2 478

## PUBLICATIONS AND LECTURING ACTIVITIES

The staff of the Department delivered 5 presentations at domestic workshops, conferences and congresses and published 1 article in a domestic specialized journal.

## PUBLIC ACTIVITIES

### a) Working Group for monitoring resistance to antibiotics

The Department is part of the network of laboratories monitoring resistance to antibiotics in the Czech Republic; Head of the Department is a member of the Working Group

### b) National Reference Centre for healthcare associated infections

Head of the Department is a member of the Centre

### c) Society for Medical Microbiology of the J.E. Purkyně Czech Medical

Head of the Department is member of the board of the Society

## COMMENTS

**Laboratory diagnostics.** In 2014, the number of requests for laboratory microbiological examinations decreased, as compared to the previous year. The number of cooperating healthcare facilities (out-patient departments) did not change substantially.

**Antibiotic centre.** The number of provided consultations and consulted patients increased in 2014 and reached its historical maximum. No basic epidemiological changes in the resistance of infection originators were recorded.

**Infection prevention and control.** In 2014, the incidence of nosocomial bloodstream infections relatively decreased, namely selectively in certain departments and partial groups. The number of patients colonised or infected with MRSA increased as compared to the previous year, which was the result of local epidemics in one of the inpatient wards. The number of infections caused by *Clostridium difficile* relatively decreased.

**Operation and economic parameters.** The operation and economic parameters of activities of the Department were stable and comparable with 2013.

**Certification and accreditation.** In December 2014, the Department passed successfully the accreditation audit of the Czech Accreditation Institute and met the requirements of the standard ČSN EN ISO 15189:2013 in the scope of the previous accreditation certificate for examinations in the field of clinical microbiology.

**External activities.** The Department cooperates with the National Reference Centre for healthcare associated infections at the State Healthcare Institute and with a postsecondary vocational centre involved in training of laboratory technicians.

## ■ DEPARTMENT OF PATHOLOGY

**Head of the Department: Martin Syrůček, MD**

### ACTIVITIES OF THE DEPARTMENT

The department carries out all bioptic and cytological diagnoses within Na Homolce Hospital and, in cooperation with the laboratories of the hospital departments, provides a comprehensive service within

the hospital and to selected private healthcare facilities in Prague. In addition, the department is in charge of autopsies, including organisational services when delivering bodies to the funeral service. The Department organises clinical-pathology seminars with analysis of selected autopsies and biopsies for individual clinical departments in order to raise the quality of medical care provided.

### ORGANISATIONAL UNITS OF THE DEPARTMENT

The Department performs its activities as a whole and is not split into organisational units or cost centres. Only the newly reconstructed premises are divided into a histology and cytology laboratory and laboratory of special methods (immunohistochemistry).

### BASIC DATA

#### Staff

4 doctors working full-time and one doctor working part-time (0.5 FTE) within a contract for work. On 1 October 2014, the staff was joined by another doctor without "core specialization" and without postgraduate certificate

7 laboratory technicians, one member of paramedical staff (retired) and one laboratory technician for screening (retired) (0.5 FTE) within a contract for work

1 autopsy laboratory technician working full-time, one member of paramedical staff working within an alternative contract for work

2 administrative assistants, full-time, one retired person (0.5 FTE) within a contract for work.

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 5 offices for doctors, one office for the senior laboratory technician, an administrative office, rooms for employees, changing rooms, storerooms for preparations and workshop rooms.

The autopsy unit with a dissection room, with preparation rooms and cooling space with 20 boxes for the deceased, these premises are separated by a hygienic filter.

The laboratory section is also separated by a hygienic filter and includes 6 laboratories for histology, cytology, special methods; and other special purpose laboratories.

## PERFORMANCE OVERVIEW

### Bioptic diagnostics

	2005	2009	2011	2013	2014
Number of examinations	19 546	21 831	22 670	21 643	20 817
Number of specimens	49 290	58 429	61 631	65 890	63 972

### Cytological diagnostics

	2005	2009	2011	2012	2014
Number of examinations	5 349	2 738	2 153	2 205	1 993
Number of specimens	11744	6214	5092	4932	4365
BAL (bronchoalveolar lavage)			187	162	121

In 2014, the absolute number of bioptic and cytological examinations slightly decreased. When comparing to the number of examinations requested by individual hospital departments in 2013, there is an evident decline in biopsies requested by the Department of Gynecology and Surgery. The Centre for Pulmonary Endoscopy relatively highly increased the amount of bioptic samples.

In 2014, the laboratory of the Department significantly increased the number of immunohistochemistry examinations which is given by the complicated diagnostics of the tested samples and the necessity to increase the accuracy of classification of tumour lesions.

The number of external biopsies decreased by about 7%.

### Autopsy activity

	2005	2009	2011	2012	2014
Number of diseased in the hospital	286	270	226	216	225
Number of autopsies	248	154	136	122	123

Autopsy rate for 2014 amounts to 56.6 %.

### Workshops

In 2014, the doctors of the Department attended 102 clinical-pathological conferences, where 22 autopsy and 837 biopsy cases were discussed.

	2005	2009	2010	2012	2014
Number of workshops	127	85	98	88	102
Number of autopsies	65	82	27	20	22
Number of biopsies	377	684	612	846	837

Since 2002 the Department has organised, in addition to classical-pathological workshops, also regular weekly multidisciplinary mammology workshops with the attendance of a surgeon, radiologist and oncologists, focused on analysis of biopsy examinations based on the clinical picture together with analysis of therapeutic and prognostic outlooks. Workshops are also organised in cooperation with the ENT Department and clinical-pathological workshops with the Centre for Pulmonary Endoscopy, according to the need of clinicians.

Regularly once a week the staff participate in neurooncological workshops with the representatives of neurosciences, oncologists and radiologists, to discuss all biopsy cases. Workshops with other specializations are organized if need be, as a rule twice a year. These workshops are part of the further education programme of clinical departments, aimed at increasing the quality under the accreditation standards.

## CHANGES AND NEW EVENTS

### Accreditation

Department of Pathology obtained in May 2014 reaccreditation of the Czech Accreditation Institute – ISO 15189.

Department of Pathology as part of the Na Homolce Hospital participated in successful JCI reaccreditation in June 2014.

### 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. Based on the results the Department of Pathology obtained EQA certificate.

## PUBLISHING AND EDUCATIONAL ACTIVITIES

### Publications in 2014

J. Lukas, J. Drabek, B. Dudesek, P. Vazan, M. Syrucek, J. Duskova, P. Dundr, B. Hintnausova, J. Jiskra.: Correlation among the BRAF Gene Mutation Status, Clinicopathological Features of Primary Tumour, and Lymph Node Metastasizing of Papillary Thyroid Carcinoma. 05/2014; 122(5):268-72. DOI: 10.1055/s-0034-1372624

Vojtěch Z<sup>1</sup>, Malíková H., Krámská L., Anýž J., Syrůček M., Zámečník J., Liščák R., Vladyka V.: Long-term seizure outcome after stereotactic amygdalohippocampectomy.

Acta Neurochir (Wien). 2014 Aug;156(8):1529-37. doi: 10.1007/s00701-014-2126-5. Epub 2014 May 30.

### R&D activities - grants:

NS9654-4/2008

Quantitative MRI in diagnostics and differential diagnostics of brain tumours (Prof. Josef Vymazal, MD DSc, Martin Syrůček, MD etc.)

NT12237-5/2011

Diagnostic a therapeutic potential of fibroblast activation protein (FAP) in human astrocytic tumours, IGA MZČR, 2011 – 2015, M. Syrůček, MD – co-investigator

## DEVELOPMENT PERSPECTIVES FOR 2015

ISO reaccreditation and a change to a new standard ISO 15189:2013 (May 2015).

Further improvement of the standard of diagnostics and clinical-pathological workshops.

Extension of the range of immunohistochemical antibodies according to the needs of individual hospital departments.

## ■ DEPARTMENT OF BIOMEDICAL ENGINEERING

**Head of the Department: Ing. Ladislav Škarda**

The main task of the Department of Biomedical Engineering in Na Homolce Hospital is to ensure operation and service of medical equipment in the hospital including the Spa resort Mánes in Karlovy Vary. Other activities include monitoring new trends in biomedicine. The department is divided into two sections, i.e. the section of prevention and services and the metrology section.

**The Prevention-Services Section** carries out preventive checks on medical devices as stipulated by Act No. 23/2000 Coll. and the JCI standards. It carries out regular maintenance, ensures timely servicing by equipment providers and keeps documentation on all medical devices. This section also ensures the preparation and use of diagnostic, therapeutic and laboratory equipment and provides technical help for the implementation of new medical equipment. It maintains equipment for perfusion, cardiology, electrophysiology, the navigation systems in neurosurgery and other areas, auto-transfusion for the Department of Cardiology and Vascular Surgery and the calibration of anesthesia equipment. Additionally, it monitors developments in the technical specifications of medical equipment on the market and prepares technical documentation for public tenders.

**The Metrology Section** makes sure that the metrology standards in 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 directive ORG 1/6 Metrology Order which stipulates the responsibilities, rights and duties of employees in the use of measuring instruments, 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 measuring instruments, their temperature and pressure, ensures the external benchmark calibration of working instruments measuring weight, length and time. It also organises external official verification of the measuring devices of temperature, weight and eye tonometers.

The Authorised Metrology Centre K 92 is an essential part of the Metrology Section which provides official verification of the measuring devices for indirect measurement of pressure – tonometers, within the scope of the decision of the Office for Standards, Metrology and Testing no. 61/2000.

The Department of Biomedical Engineering in Na Homolce Hospital is a centre accredited by the Czech Ministry of Health for postgraduate teaching in the Institute of Postgraduate Studies in Healthcare including a specialisation in biomedical subjects in the Czech Republic. The Department was also involved in undergraduate teaching for the Faculty of Electronics and Faculty of Biomedical Engineering at the Czech Technical University and 1st Faculty of Medicine of Charles University and the Technical University in Liberec in 2014.

The Department of Biomedical Engineering in Na Homolce Hospital is the co-researcher of IGA MZ ČR (NT/14473) grant in 2014. Together with the principal investigator, the Faculty of Biomedical Engineering of the Czech Technical University, it is developing effective checks of the purchasing process in the healthcare facilities.

## ■ MÁNES SPA RESORT, KARLOVY VARY

**Manager of Spa-Resort: Alena Pelikánová**

In April 2006, the Ministry of Health of CR transferred the Mánes Spa-Resort in Karlovy Vary, together with all its associated state-owned assets, liabilities and receivables, to the state-funded organisation of Na Homolce Hospital with the entitlement to manage it until further notice.

The Mánes Spa-Resort provides **comprehensive and partially funded spa treatment for adults and children with diseases of the digestive tract and metabolic and glandular disorders** (diseases of

the liver, gallbladder and biliary tract, stomach, intestinal diseases, diabetes and obesity) and diseases of the musculoskeletal apparatus.

In 2014, the services also included one-week therapeutic stays as well as a number of shorter relaxation and recuperation specialised programmes. In addition to the comprehensive and partially funded spa care for clients of all health insurance companies, the Mánes spa-resort offers curative and wellness stays both to domestic and foreign private clients.





# AA CLUB HOMOLKA

The Club of patients suffering from allergy and asthma (AA Club Homolka) is part of the national Association for help to children with chronic conditions. It was established 18 years ago at the Centre for Allergy and Clinical Immunology of the Na Homolce Hospital. Its members are families of children treated in Prague as well as in different regions of the Czech Republic (currently about one hundred families).

The Club organises education of parents and their children (through specialized lectures, articles in journals etc.), preventive curative programmes and other events (visits to ZOO, river cruises, excursions, Christmas parties). All members are provided free of charge with the journal Allergy, asthma, bronchitis, published 4 times a year, and the club journal Butterfly (3 times a year). One of the most favoured activities of the Club are seaside stays organised annually for tens of school children with asthma, allergies, atopic eczema and immunity disorders. The care for children is provided there by volunteers from the ranks of hospital employees and other volunteers.

In 2014, a total of 56 children aged 6–15 years participated in the curative seaside stay in Greece. They were traditionally accommodated in a small seaside family hotel Golden Sun. The stay went smoothly and the condition of all children significantly improved, which was documented also by measuring of the lung function by mobile spirometer in children with asthma. Therefore a similar type of treatment is planned also in 2015.



# GRANTS UNDER WAY IN 2014

## GRANTS UNDER THE IGA GRANT AGENCY OF THE MINISTRY OF HEALTH CR

### ref. NT/12153-5 (NS 0593)

Principal investigator: Assoc. Prof. Ošťádal Petr, MD, PhD  
Title: Influencing oxidative stress by endovascular therapeutic hypothermia in patients after cardiac arrest

Period: 2011 – 2015  
Total subsidy in 2014: **CZK 1 401 000**

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### ref. NT/12237-5 (NS 1192)

Principal investigator: 1<sup>st</sup> Faculty of Medicine, Charles University  
Co-investigator: Tomáš Robert, MD, PhD  
Title: Diagnostic a therapeutic potential of fibroblast activation protein (FAP) in human astrocytic tumours

Period: 2011 – 2015  
Total subsidy in 2014: **CZK 293 000**

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### ref. NT/12282-5 (NS 1596)

Principal investigator: 1<sup>st</sup> Faculty of Medicine, Charles University  
Co-investigator: Assoc. Prof. Štětkářová Ivana, MD, PhD  
Title: Pathophysiological mechanisms of neuromodulation treatment in dystonia

Period: 2011 – 2015  
Total subsidy in 2014: **CZK 356 000**

### ref. NT/12094-5 (NS 4398)

Principal investigator: Thomayer Hospital  
Co-investigator: Prof. Vymazal Josef, MD, DSc  
Title: Multidisciplinary approach in diagnostics of frontotemporal lobar degeneration and tauopathy: a comprehensive analysis of pathogenetic mechanisms

Period: 2011 – 2015  
Total subsidy in 2014: **CZK 278 000**

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### ref. NT/12331-5 (NS 4490)

Principal investigator: Teaching Hospital of Charles University in Motol  
Co-investigator: Fencel Pavel, MD, PhD  
Title: Early evaluation of efficiency of the neoadjuvant chemotherapy in carcinoma of esophagus and esophagogastric junction by means of FDG-PET/CT examination

Period: 2011 – 2015  
Total subsidy in 2014: **CZK 179 000**

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### ref. NT/14473-2 (NS 6891)

Principal investigator: Czech Technical University in Prague, Faculty of Biomedical Engineering  
Co-investigator: Ing. Macků David, MD  
Title: Information system of monitoring purchases of medical devices

Period: 2013 – 2014  
Total subsidy in 2014: **CZK 255 000**

## GRANTS OF THE MINISTRY OF EDUCATION, YOUTH AND SPORTS

### ref. LH12054 (NS 0594)

Principal investigator: Petr Neužil, MD, PhD

Title: Verification study on the efficiency of application of high-intensity focused ultrasound (HIFU) in extracorporeal sympathetic renal denervation in patients with resistant arterial hypertension

Period: 2012 – 2015

Subsidy in 2014: **CZK 714 000**

Funds invested by NHH in 2014: **CZK 272 000**

# PUBLICATIONS IN 2014

Publications co-authored by the Na Homolce Hospital staff

## FOREIGN

### Articles published in IF journals

BERNAT, I. - HORÁK, D. - STAŠEK, J. - MATES, M. - PEŠEK, J. - OŠTÁDAL, P. - HRABOŠ, V. - DUŠEK, J. - KOZA, J. - ŠEMBERA, Z. - BRŤKO, M. - ASCHERMANN, O. - ŠMÍD, M. - POLANSKY, P. - MAWIRI, A. A. - VOJÁČEK, J. - BIS, J. - COSTEROUSSE, O. - BERTRAND, O. F. - ROKYTA, R. ST-segment elevation myocardial infarction treated by radial or femoral approach in a multicenter randomized clinical trial: the STEMI-RADIAL trial. *Journal of the American College of Cardiology*, 2014, vol. 63, no. 10, s. 964-972. ISSN 0735-1097.

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HROMÁDKOVÁ, L. - HEERDINK, E. R. - PHILBERT, D. - BOUVY, M. L. Association between concomitant psychiatric drug use, and patients' beliefs about and persistence with chronic cardiovascular medication. *International Journal of Clinical Practice*, 2014, ISSN 1742-1241.

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a nationwide registry. *BMC Pulmonary Medicine*, 2014, vol. 14, no. 3, s. 45-53. ISSN 1471-2466.

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LUKÁŠ, J. - DRÁBEK, J. - DUDEŠEK, B. - VAZAN, P. - STRÁNSKÁ, J. - JANČÍK, S. - MACKOVÁ, M. - SYRŮČEK, M. - LUKÁŠ, D. - DUŠKOVÁ, J. - DUNDR, P. - HINTNAUSOVÁ, B. - JISKRA, J. Correlation among the BRAF gene mutation status, clinicopathological features of primary tumour, and lymph node metastasizing of papillary thyroid carcinoma. *Exp Clinical Endocrinol Diabetes*, 2014, vol. 122, no. 5, s. 268-272. ISSN 0947-7349.

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# QUALITY AND SAFETY



# INTERNATIONAL ACCREDITATION BY JOINT COMMISSION INTERNATIONAL (JCI)



The long-term quality of health care, the safety of patients and the staff working at Na Homolce Hospital are the main pillars of its stability. Endeavouring to provide quality health care in compliance with clearly defined standards, Na Homolce Hospital was encouraged to apply for Joint Commission International (JCI).

The Na Homolce Hospital has had the status of “world quality” – the Joint Commission International (JCI) international accreditation since 2005, when it passed the first accreditation audit. **In May 2014 it successfully defended this international accreditation.** The certificate is a proof of

the top-quality therapeutic care provided, as well as of a high standard of other processes within the whole hospital. Both the results of the audit and primarily the outstanding results of everyday work with patients are a credit to all employees of the hospital.

The Na Homolce Hospital is the only hospital in the Czech Republic that has for the fourth time defended JCI accreditation and the first to obtain accreditation pursuant to the updated JCI standards (5th edition). Accreditation is granted for the period of three years. In order to retain the certificate, the hospital will have to defend it again in three years and document improvement and optimization of procedures,

particularly in the field of risk management, HR management, drug policy or continuous development of professional standards.

**The Joint Commission International** is a worldwide organisation with a more than one-hundred year tradition of accrediting health-care facilities. The accredited hospital guarantees safety and quality to the patient by continuously monitoring, analyzing and improving quality indicators in all areas of hospital practice. The JCI accreditation system is based on a set of accreditation standards that cover all important activities of a healthcare facility and affect both the immediate care of patients (accessibility and continuity of care, patients and their family rights, diagnostic and therapeutic care, storing and administration of drugs, education of patients and their families, quality of care and safety of patients, prevention and checks on hospital infections) and also the safety, and effective and proper management of the hospital (management and leadership, ensuring the safety of the hospital environment, qualification and education of staff, information management and communication).

Each standard is further divided into individual indicators that describe what the hospital must do to comply with the given standards. There are more than 1,000 indicators in the JCI system. An international team of auditors assesses compliance with JCI standards and the performance of its indicators during a weekly audit. Based on the information gained during this accreditation survey, which the audit team submit in a final report, the JCI Accreditation Committee headquarters in Chicago then gives a final judgement as to whether or not accreditation is to be granted.

# SYSTEM QUALITY IN NA HOMOLCE HOSPITAL

## **ISO 15189**

The following laboratories; Department of Clinical Biochemistry, Hematology and Immunology), IA (Immunological Laboratory), Biopsy Laboratory and Department of Pathology, Clinical Microbiology and Antibiotic Unit, have had the system of quality management in accordance with ISO 15189 of the Czech Institute for Accreditation (ČIA) since 2011.

Standard ISO 15189 “Medical laboratories – special requirements for quality and competence” focuses 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 also the safety and ethics of laboratory work. The accreditation 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 the system of quality management in accordance with ISO 9001 has been given to the Department of Nuclear Medicine for the following activities: provision of diagnostic services by laboratory methods of immunoanalysis and imaging methods such as scintigraphy, computing and positron emission tomography (CT, SPECT, and PET/CT) including the preparation of radiopharmaceutical drugs. All services are provided according to an approved policy of quality.

This type of certification covers organisation of the work including process management, management of resources, monitoring and the assessment of efficiency of procedures.

## **ISO 13485**

In 2014, the system management of the Department of Central Sterilisation was certified in accordance with ISO 13485. This international standard sets requirements for the systems of quality management in such cases where a company needs to document its ability to provide relevant healthcare devices and services that consistently meet both its own regulations and the requirements of their clients.

The Department of Central Sterilisation is a workplace that ensures disinfection, preparation before sterilisation and material sterilisation for all workplaces in Na Homolce Hospital as well as providing contractual services for surgeries of general and specialist practitioners.

# RISK MANAGEMENT – STOP PRESSURE ULCERS CAMPAIGN



Na Homolce Hospital joined the STOP Pressure Ulcer Day – one goal worldwide.

On 20 November 2014 a campaign was organized in the public premises of the Na Homolce Hospital, focused on prevention and treatment of pressure ulcers. The event was intended for the hospital patients, visitors and staff and included

also presentation of cosmetic products for skin treatment, the latest products for wound and pressure ulcer management, including vacuum wound therapy, and last but not least liquid nutrition medical products as an important part of prevention and treatment.

The most attractive part of the programme was presentation of the positioning devices for both domestic and professional use, with active involvement of our experienced nurses.

Those who were interested could try positioning devices, taste the liquid nutrition and take samples. The event raised high interest among the public. It was attended by patients, persons taking care of their family members at home as well as by students of healthcare vocational schools. The highest interest was shown by the staff. The event became a workshop for sharing experience and best practices in the use of the respective materials and devices.

## **What do we do in the Na Homolce Hospital to prevent pressure ulcers:**

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



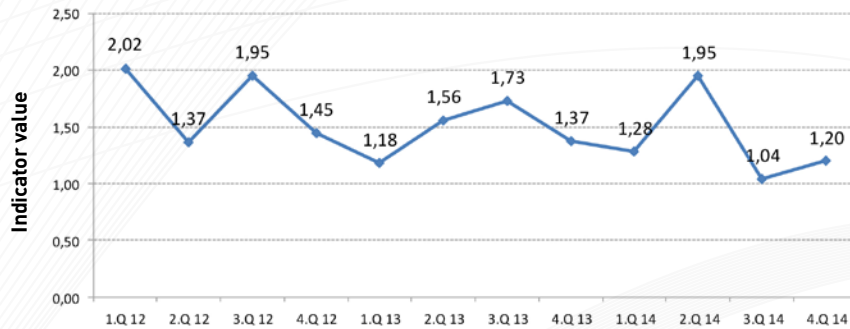
## **Preventive measures taken in all patients at risk:**

- Elimination of any source of pressure on tissues.
- Careful treatment and regular positioning of immobile patients.
- Provision of professional hygienic care using high-quality cosmetic products and aids.
- Emphasis on clean and dry sheets and clothing.
- The use of the best anti-decubitus mattresses, positioning devices and beds with special equipment (bars, side rails etc.).
- Skin treatment using special protective cosmetic products.
- Application of film dressings on the sites at risk.
- Providing nutritional balance diet, cooperation with a nutritional therapist.

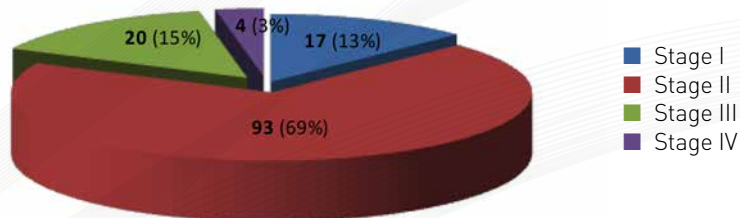
### Our results:

We have monitored the results of our work in this field since 2003 and our achievements are excellent in the long run. The Na Homolce Hospital treats annually a total of 20 000 inpatients, including patients in critical condition and after long and complicated surgical interventions. The incidence of pressure ulcers (mostly first and second degree) is less than 1%. Each particular case is examined in detail and properly treated.

#### Number of pressure ulcers/ treatment days (x1000) 2012-2014



#### Degree of tissue damage in pressure ulcers in 2014



# MONITORING OF PATIENT SATISFACTION

In 2014, the Na Homolce Hospital participated in the national survey of satisfaction of patients and employees. The ranking list was prepared by the HealthCare Institute (HCI) based on nationwide comprehensive evaluation of hospitals under the title "Hospital of the Czech republic for 2014". The survey covered almost 100 000 respondents from 156 hospitals and healthcare facilities from the Czech Republic. Within this project the hospitals were comprehensively evaluated in four key areas:

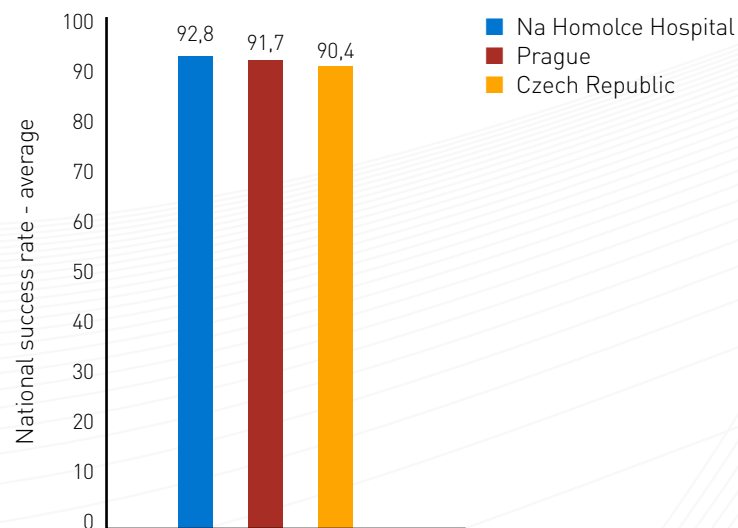
**1. Satisfaction of inpatients,** (Na Homolce Hospital rating was \*\*\*\*\* i.e. more than 80% satisfaction)

**2. Satisfaction of outpatients** (Na Homolce Hospital rating was \*\*\*\*\* i.e. more than 80% satisfaction)

**3. Satisfaction of hospital employees** (Na Homolce Hospital rating was \*\*\*\*, 77.5% satisfaction)

#### **4. Financial soundness of hospitals.**

The project was implemented between 1 March and 30 September 2014. With the 92.8% success rate, the Na Homolce Hospital was above the regional and national average. The hospital may be classified as highly above average (rating A).





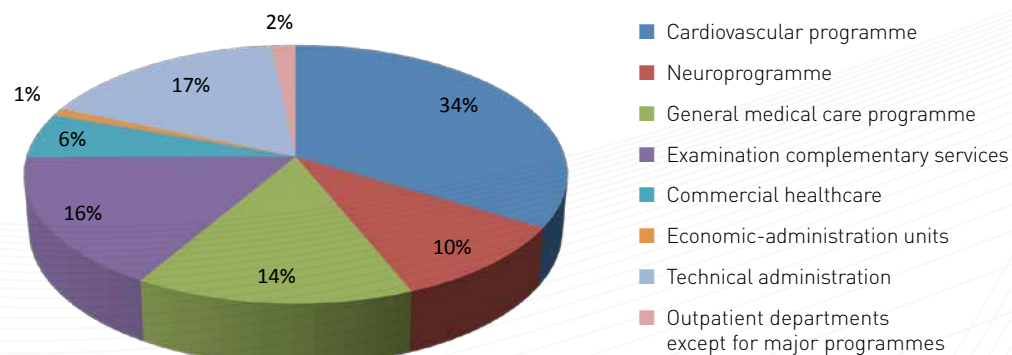
# ECONOMIC STABILITY



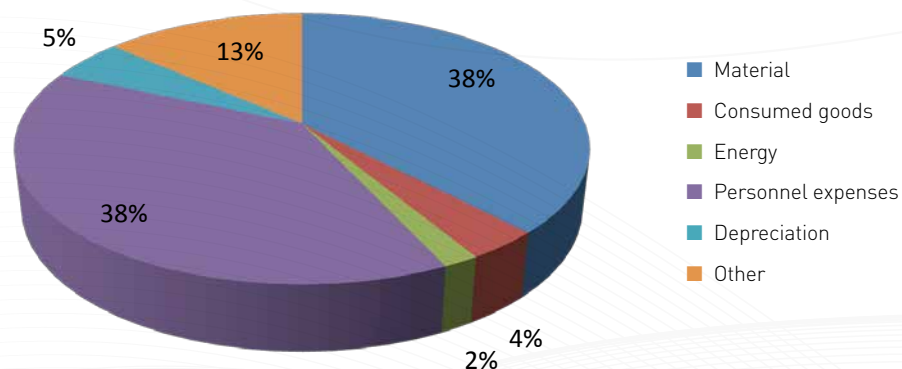
# EXPENSES AND REVENUES

## STRUCTURE OF COSTS BY PROGRAMMES

Total	100 %
Cardiovascular programme	34 %
Neuroprogramme	10 %
General medical care programme	15 %
Examination complementary services	16 %
Commercial healthcare	6 %
Economic-administration units	1 %
Technical administration	17 %
Outpatient departments except for major programmes	2 %



## STRUCTURE OF COSTS BY TYPES



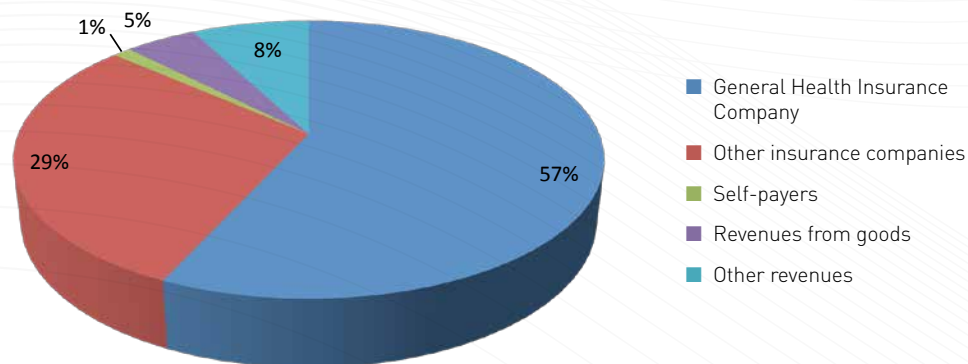
Total	100 %
Material	38 %
Consumed goods	4 %
Energy	2 %
Personnel expenses	38 %
Depreciation	5 %
Other	13 %

Hospital, total	3 047 039 171	100 %
Healthcare	2 333 845 886	77 %
Commercial	171 430 727	6 %
Administration and operation	541 762 558	18 %

## STRUCTURE OF REVENUES 2014

Total	100 %
General Health Insurance Company	57 %
Other insurance companies	30 %
Self-payers	1 %
Revenues from goods	5 %
Other revenues	8 %

Number of points per doctor	6 331 639
Number of outpatient points per doctor	2 207 114

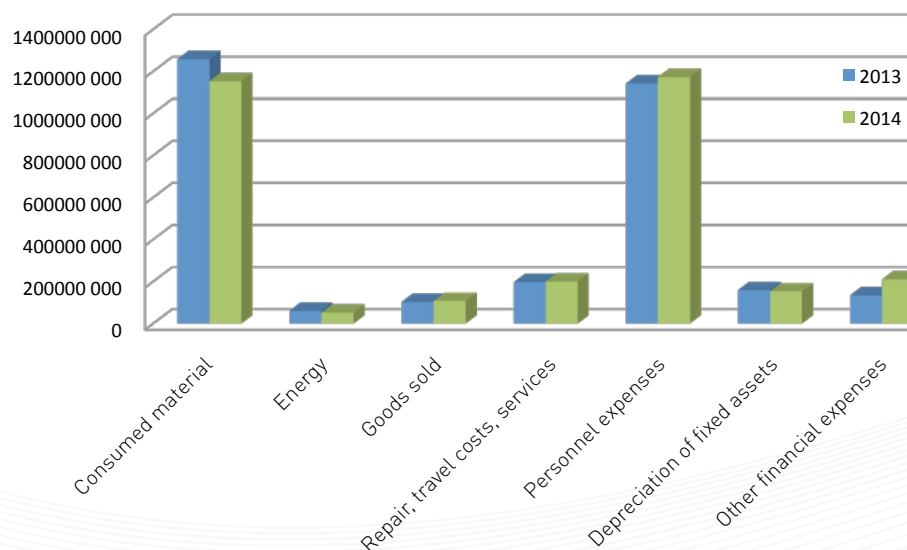


## EXPENSES AND REVENUES, TOTAL

	2014	million CZK
Revenues	3 088 819 447	3 089
Expenses	3 047 039 171	3 047
Profit/ loss	41 780 276	42
Consumed material	1 152 895 380	1 153
Personnel expenses	1 172 263 658	1 172
Depreciation	152 789 815	153

Basic data	2014
Number of employees	1 793
Number of beds	357
Number of admissions	20 450
Number of surgeries	14 184
Number of outpatient examinations	1 212 974

## COMPARISON OF COSTS FROM 2013 TO 2014

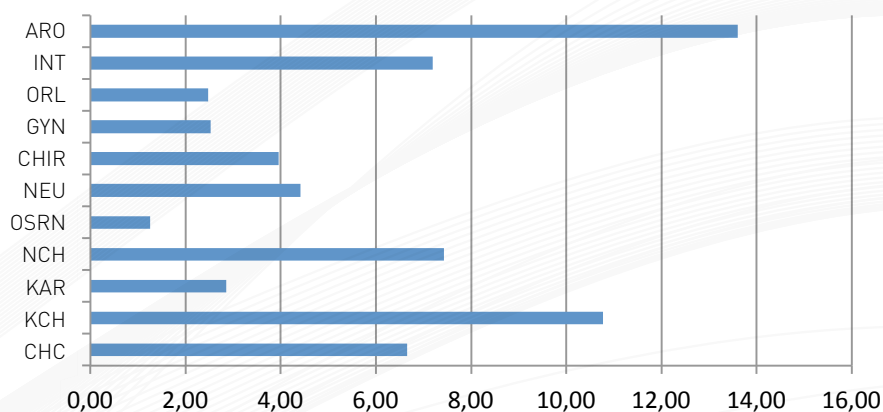


Costs	2012	2013	2014
Consumed material	1 394 936 568	1 257 597 126	1 152 895 380
Energy	63 644 937	60 063 102	51 972 166
Goods sold	113 803 309	102 782 640	107 221 646
Repair, travel costs, services	208 643 095	196 236 883	200 052 579
Personnel expenses	1 183 481 656	1 141 529 105	1 172 263 658
Depreciation of fixed assets	160 747 031	158 369 535	152 789 815
Other financial expenses	193 773 610	134 174 703	209 843 928
Costs, total	3 319 030 207	3 050 753 095	3 047 039 171

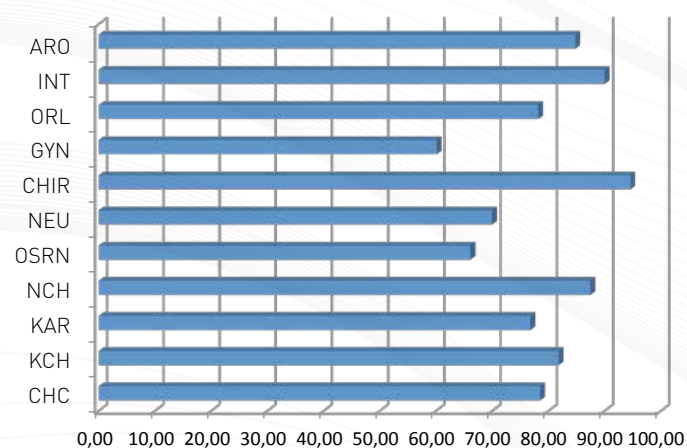
Revenues	2012	2013	2014
Revenues from own products and services	3 021 577 597	2 592 927 021	2 671 111 941
Revenues from goods	145 602 898	140 222 595	143 654 581
Other financial expenses	209 681 913	356 029 258	274 052 924
Revenues, total	3 376 862 409	3 089 178 873	3 088 819 447
Profit/ loss for the accounting period	57 832 202	38 425 778	41 780 276

							2014
NS	Name	Abbrev.	Mortality	Average treatment period	Number of treatment days	Percentage bed occupancy rate	
01	Vascular surgery	CHC	1,2 %	6,65	16 704	78,52	
02	Cardiac surgery	KCH	2,2 %	10,77	10 153	81,81	
05	Cardiology	KAR	1,1 %	2,85	14 381	76,78	
11	Neurosurgery	NCH	0,5 %	7,43	19 074	87,43	
12	Stereotactic and Radiation Neurosurgery	OSRN	0,0 %	1,25	1 126	66,12	
15	Neurology	NEU	1,7 %	4,41	7 340	69,94	
21	Surgery	CHIR	0,0 %	3,96	9 691	94,56	
22	Gynecology	GYN	0,0 %	2,52	4 307	60,10	
23	ENT	ORL	0,1 %	2,48	3 079	78,19	
25	Internal medicine	INT	2,3 %	7,19	9 244	89,98	
26	Anesthesiology and Resuscitation	ARO	26,4 %	13,60	2 421	84,77	
<b>NNH</b>	<b>Hospital</b>	<b>NNH</b>	<b>1,1%</b>	<b>4,96</b>	<b>97 520</b>	<b>80,66</b>	

## AVERAGE TREATMENT PERIOD



## PERCENTAGE BED OCCUPANCY RATE



# STATUTORY AUDIT OF THE 2014 FINANCIAL STATEMENTS

Na Homolce Hospital had a statutory audit of the 2014 annual financial statements made by an independent auditor.  
The auditor opinion is given below:

## **INDEPENDENT AUDITOR REPORT** **to the management of the state contributory organization** **NA HOMOLCE HOSPITAL** **on audit of financial statements**

We have audited the financial statements, i.e. the balance sheet, profit and loss account, the notes thereto, and cashflow statement of **Na Homolce Hospital, with the registered office in Roentgenova 37/2, Prague 5, Id number: 0023884**, for the accounting period from 1 January 2014 till 31 December 2014, including description of the significant accounting policies used.

Preparation and faithful presentation of the financial statements in compliance with the Czech accounting standards is the responsibility of the statutory body of the **Na Homolce Hospital, the contributory organization ("NHH")**. Part of this responsibility is to propose, establish and ensure internal controls of preparation and faithful presentation of the financial statements in order to avoid material misstatements, whether caused by fraud or error, to choose and apply appropriate accounting policies and to make reasonable accounting estimates.

Our responsibility is to issue on the basis of the audit an opinion on these financial statements. We have performed the audit in compliance with the Act on Auditors and the International Standards on Auditing and the related application clauses of the Chamber of Auditors of the Czech Republic. Under these regulations we are obliged to follow the ethical standards and to schedule and conduct the audit in such a way to obtain a reasonable assurance that the financial statements are free from material misstatements.

Based on the auditing procedures selected according to the auditor's judgement, including risk assessment, the audit involves obtaining evidence about the amounts and disclosures in the financial statements sufficient to reveal any material misstatements, whether caused by fraud or error. In assessing these risks, the auditor takes into account also internal controls that are relevant to preparation and faithful presentation of the financial statements. The aim of the assessment of internal controls is to propose appropriate auditing procedures rather than to make a statement on efficiency of internal controls. The audit also includes assessment of the appropriateness of the accounting policies used, adequacy of accounting estimates made by the management as well as assessment of the overall presentation of the financial statements.

In our view the evidence obtained provides an adequate and appropriate basis for issuing our **qualified opinion**.

### **Basis of the qualified opinion**

- a) The Tax Office for the Capital of Prague assessed on 22 April 2014 a levy to be paid by NHH to the state budget for breach of budgetary discipline in the amount of CZK 28 684 619. The identified breach of budgetary discipline consisted in the fact that in 2009, 2010 and 2011 NHH concluded contracts for providing legal assistance, contradicting the respective provisions of the Public Procurement Act. On 6 January 2015 the Tax Office for the Capital of Prague issued in this respect a Payment assessment of penalty for delay in levy payment for the breach of budgetary discipline for the period between 2 June 2009 and 5 January 2015, in the total amount of CZK 28 684 619. The penalty assessment for delay in levy payment for the breach of budgetary discipline was, however, accounted for by NHH as late as in the accounting period of 2015. For this reason the NHH equity capital and economic result (profit/loss) for 2014 were overvalued by the amount of CZK 28 684 619.
- b) In view of the content of the "Report of the result of the public administration control" ref.: MZDR 26035/2013, it cannot be ruled that additional penalties for breach of budgetary discipline (in the form of a levy for breach of budgetary discipline and the related penalty) may be imposed, as may be stated by the competent authorities in connection with the conclusion of the public administration control performed by NHH founder, covering the period of 2011-2013. However, it is impossible to quantify objectively the potential financial impacts.
- c) Proceedings are currently under way between the regional tax office and NHH in the matter of checking of budgetary discipline. It cannot be ruled out that these proceedings will result in imposition of financial penalties for breach of budgetary discipline, although it is impossible to quantify objectively the potential financial impacts.

**In our view, with reservations as to the impacts of the facts described in the preceding paragraph, the financial statements present a true and fair view of assets, liabilities and financial situation of the Na Homolce Hospital, contributory organization, as of 31 December 2014 and of costs, revenues and economic result and cashflow for 2014 in compliance with the Czech accounting rules.**

### **Emphasis of Matter**

In connection with the audited financial statements we would like to emphasize the following facts:

In the course of the audit of financial statements we identified identical purchases of material, goods and services that were pointed out to NHH in the "Report of the result of the public administration control" ref.: MZDR 26035/2013. These purchases pose among other things also the risk of penalties for breach of budgetary discipline. However, it is impossible to quantify objectively the potential financial impacts in this respect.

In our view, even if the above mentioned financial penalties are imposed on NHH, they will not pose a risk of disabling NHH to continue in its activities as such penalty should be covered by the NHH founder.

### **Other Matter**

In view of the fact that the financial statements for the preceding period have not been audited, we would like to point out that the comparative data included in the financial statements prepared as of 31 December 2014 are not audited.

In Prague, 29 June 2015, Ing. Jakub Kovář, Auditor, Chamber of Auditors CR Licence no. 1959, Vice-Chairman of the Board of Directors, **NEXIA AP a.s.**, Audit company, Chamber of Auditors CR Licence no. 96, Sokolovská 5/49, Prague 8, 186 00

INFORMATION  
DISCLOSURE  
PURSUANT TO  
ACT NO. 106/1999  
COLL.





# 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 (“Act”), the Na Homolce Hospital (“NHH”) presents the following annual report for 2014, related to its activity in the field of information disclosure:

- a) Number of submitted requests for information and the number of decisions issued on the denial of the request: NHH received a total of 19 requests for information and 1 decision on the denial of the request was issued.
- b) Number of appeals filed against the decision: None.
- c) Copy of substantial parts of every court judgment on the review of the legitimacy of the decision by a legally bound person to deny information and the list of all the expenses of the legally bound person in connection with the legal proceedings on the rights and duties under this Act, including the costs related to the legally bound person’s employees and legal representation: There was no litigation concerning review of a NHH decision to deny information.
- d) List of exclusive licenses granted, including the justification of the necessity to grant the exclusive license: No exclusive licences were granted.
- e) Number of complaints filed under Section 16a), reasons for their submitting and a brief description of the manner of their settlement: A total of 8 complaints were filed. Detailed information about the complaints is included in the following table.

<b>Date of filing of the complaint</b>	<b>Grounds for filing the complaint</b>	<b>Brief description of the manner of settlement</b>
9. 6. 2014	Section 16a(1)(b) of the Act	The complaint was accepted by NHH
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9. 6. 2014	Section 16a(1)(b) of the Act	The complaint was accepted by NHH

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

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