



# Annual Report

2013



Accredited by JCI



Our hospital employs unique techniques and methodologies, particularly in the Cardiovascular and the Neurology and Neurosurgery Programmes.

We work closely within the hospital itself as well as with both national and international centres.

We promote cooperative and professional interpersonal relations.

We are holders of JCI accreditation.

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# About Us



Introduction

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## INTRODUCTION



In 2013, Na Homolce Hospital, together with the majority of other hospitals in the Czech Republic, was affected by the continuing bad financial situation in the state healthcare.

The income from health insurance companies has been reduced since 2010 by over 300 million Czk due to restrictive settlement regulations. The management of the hospital has implemented austerity measures in order to compensate for the drop of income in the healthcare and so as not to restrict the smooth running of the hospital or compromise the standard of care provided. These austerity measures began in 2012, continued last year and will continue throughout the course of 2014. We have carried out new public tenders in order to secure our services and devices cheaper and have set up a more effective management structure, notably in the technical part of the hospital, in the pharmacy for the cheaper purchase of medicines and also other parts of the hospital, which has led to the termination of several unfavourable contractual relationships.

In the middle of 2013, thanks to these austerity measures and the active liaison of all employees, we managed to reduce the total deficit, accrued from 2010, by half. Nevertheless, in the course of the second half of last year there was yet another cut in the income

to Czech hospitals from health insurance companies. However, due to the measures it had already put in place, Na Homolce Hospital did not suffer as badly from these financial losses when compared to most other hospitals in the Czech Republic.

It is my pleasure to praise the work of our employees and to announce that Na Homolce Hospital closed the year 2013 with a profit of 38 million Czk.

Let me thank all of you who are doing such very good work for our hospital and for our patients. Allow me also to thank all the donors to the Homolka Endowment Fund who, with their financial contributions, have helped the hospital to invest in new devices and other equipment. Finally, let me express my belief that our endeavours will be appreciated by our patients for whom we are here.

We are expecting the fourth JCI international accreditation audit in 2014. Na Homolce Hospital has always met the requirements of JCI accreditation standards and has retained this quality since 2005. I have confidence that I will be able to announce with pride a successful JCI accreditation audit for the fifth time in the 2014 annual report.

**Michal Šetlík, MD**

Director of Na Homolce Hospital

# Hospital Management and Bodies



**Michal Šetlík, MD**  
Director



**Ing. Miroslava Trávníčková**  
Deputy for Healthcare Finance



**Michal Toběrný, MD, MBA**  
Deputy Directors for Treatment and Preventative Care  
(until 30. 11. 2013)



**Ing. Jiří Havel**  
Deputy for Financial Planning and Execution



**Zbyněk Fuksa, MD**  
Deputy Directors for Treatment and Preventative Care  
(from 1. 12. 2013)



**Mgr. Barbora Vaculíková, MBA**  
Head of Safety and Quality Department

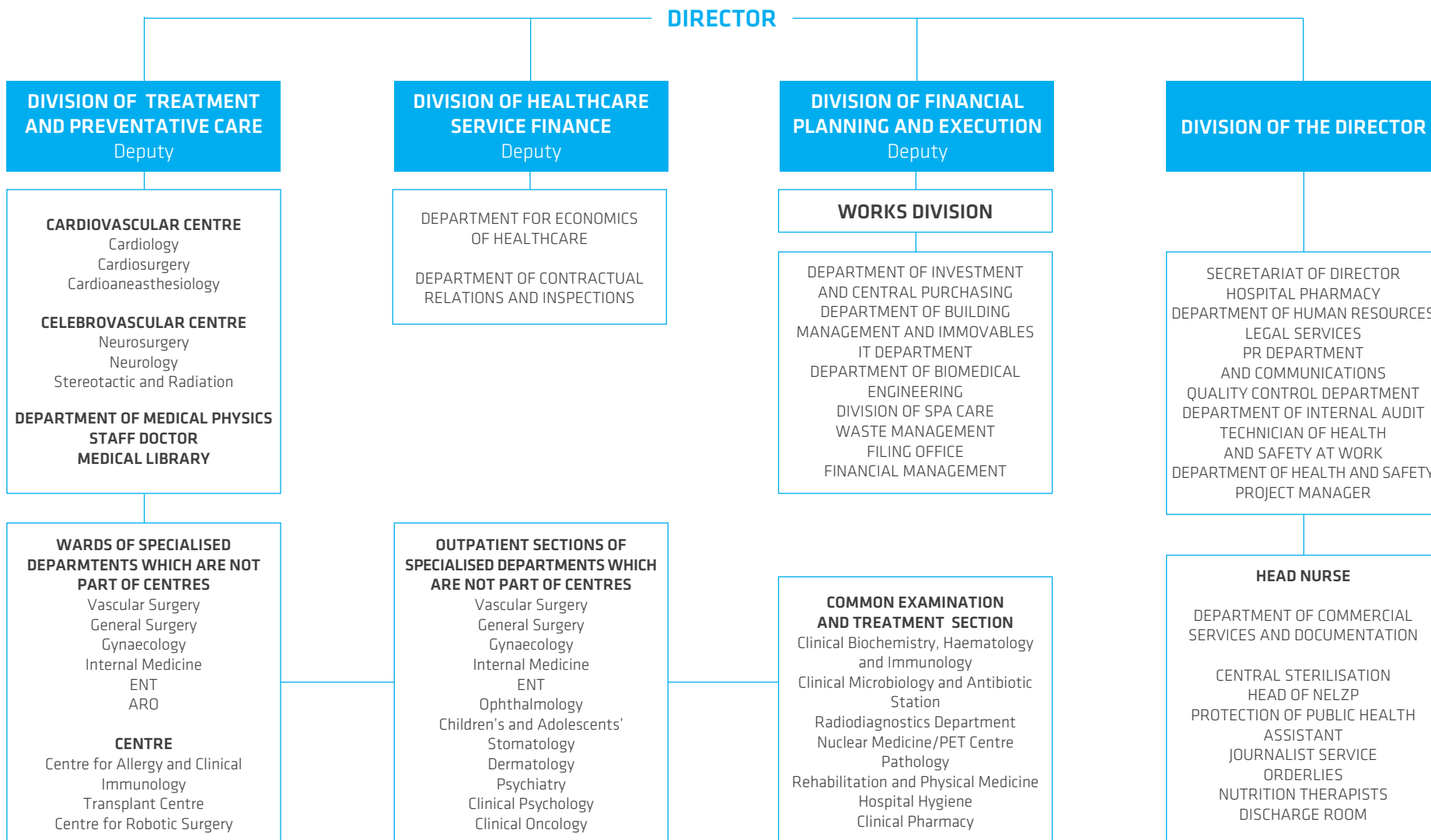


**Eva Kuříková**  
Head Nurse



**Mgr. Miroslava Braunová**  
Head of Human Resources

# Organisation Chart



# Profile Na Homolce Hospital

## A specialised healthcare centre providing nationwide cardiovascular and neurosurgical treatment

### The Neurological-Neurosurgical Programme

This programme provides comprehensive care for patients who suffer from central and peripheral nervous system diseases or injuries or to those with spinal injuries. Three independent units offer a full range of medical care from diagnostic services and conservative therapies, comprehensive neurosurgical operations including radiosurgery and stereotactic surgery even including the latest methods of neuroradiological intervention. An essential part of the care is the post-treatment rehabilitation and continuing healthcare support given to our patients.

**Department of Neurology**  
**Department of Neurosurgery**  
**Department of Stereotactic and Radiation Neurosurgery**

### The Cardiovascular Programme

This programme provides comprehensive care for patients suffering from diseases of the cardiovascular system, i.e. heart and blood vessels. Three independent units specialise in comprehensive diagnostics and conservative methods as well as the surgical and radiological treatment of cardiac and vascular diseases including radiological interventions. An essential part of the care is rehabilitation for patients with diseases of the circulatory system and the continuing healthcare provided for those groups of patients for whom it is necessary.

**Department of Cardiology**  
**Department of Cardiac Surgery**  
**Department of Vascular Surgery**  
**Department of Cardio-Anaesthesiology**

### The General Medical Programme

This programme provides a comprehensive range of general healthcare through its extensive outpatient services and follow-up inpatient wards. Four independent hospital wards within this programme offer our patients a range of modern diagnostic examinations and therapeutic treatments in internal medicine and surgery with an emphasis on minimally invasive surgery. They liaise with the extensive outpatient services of individual departments.

**Department of Internal Medicine**  
**Department of Surgery**  
**Department of Gynaecology and Minimally Invasive Surgery**  
**Department of ENT/Head and Neck Surgery**

#### Basic data / year 2013

Number of employees	1,799
Number of beds	357
Number of hospitalisations	20,232
Number of operations	14,213
Number of outpatient examinations	1,217,763

#### 2013

Ns	Name	Abbreviation	Mortality	Average Time of Treatment	Treatment Days	Use of Beds (%)
01	Vascular Surgery	CHC	1.2%	7.08	16,912	80.17
02	Cardiosurgery	KCH	1.7%	11.30	10,541	85.57
05	Cardiology	KAR	1.1%	2.87	14,414	77.89
11	Neurosurgery	NCH	0.6%	7.41	18,640	86.23
12	Stereotactic and Radiation Neurosurgery	OSRN	0.0%	1.25	1,006	59.46
15	Neurology	NEU	1.8%	4.96	7,771	72.80
21	Surgery	CHIR	0.3%	3.80	9,513	89.70
22	Gynaecology	GYN	0.1%	2.65	4,936	57.85
23	ENT	ORL	0.0%	2.47	3,106	78.65
25	Internal Medicine	INT	2.2%	7.64	9,234	90.37
26	ARO	ARO	26.4%	11.17	2,368	83.38
NNH	NNH	NNH	1.2%	5.08	98,441	80.66

# Management of Human Resources

We can state that all employee positions in every category were fully staffed in 2013 and none of the departments of the hospital had a problem with a lack of staff.

Na Homolce Hospital employed 1798.78 staff (recalculated status) and spent 847 million Czk on salaries in 2013, the average salary being 39,222 Czk per month.

Salary data by individual categories										2013
	Doctors	Pharmacists	General nurses	Healthcare staff excluding doctors § 7 - 21	Healthcare staff excluding doctors § 22 -28	Healthcare staff excluding doctors § 29 - 42	Healthcare staff excluding doctors	Administrative staff	Manual workers	Total
Salaries paid in total (Czk)	264,088,169	7,720,953	315,177,409	47,372,974	25,753,828	57,856,938	670,450	87,727,900	40,248,565	846,617,186
Average salary	80,874 Czk	48,232 Czk	34,728 Czk	35,044,Czk	37,998 Czk	23,340 Czk	53,210 Czk	33,352 Czk	20,822 Czk	39,222 Czk

Personnel data by individual categories										
	Doctors	Pharmacists	General nurses	Healthcare staff excluding doctors § 7 - 21	Healthcare staff excluding doctors § 22 -28	Healthcare staff excluding doctors § 29 - 42	Healthcare staff excluding doctors	Administrative staff	Manual workers	Total
Average recalculated number of employees	272.12	13.34	756.29	112.65	56.48	206.57	1.05	219.20	161.08	1798.78

# Our Activities



Summary of Activities of Clinical Programmes

Patient Clubs

Grants Under Way in 2013

Publications in 2013

# Summary of Activities of Clinical Programmes

## NEUROLOGICAL – NEUROSURGICAL PROGRAMME

### DEPARTMENT OF NEUROLOGY

*Head of the Department Miroslav Kalina, MD*

This department provides comprehensive outpatient and inpatient care for the diagnosis and non-surgical treatment of diseases of the brain, spinal cord, peripheral nerves and muscular apparatus, for which it employs specialised electrophysiological and ultrasonic diagnostic methods.

An essential part of the department is the **Epilepsy Centre** with specialised outpatient and inpatient care for patients who suffer from epilepsy. It includes two epilepsy counselling and epilepsy monitoring units (EMU), which carries out long-term monitoring and the selection of patients for epilepsy surgery as well as providing consultancy to other neurological departments in the Czech Republic. In 2013 the EMU admitted 217 patients, 14 of which were monitored by surgical implantation of electrodes while 43 were indicated for epileptosurgical treatment i.e. open surgery or implantation of a vagal stimulator. Stereotactic thermolesion methodology was not used in 2013 due to a failure in the supply of electrodes. Care of patients with epilepsy is characterised by close interdisciplinary collaboration across the neurosciences in the hospital including the Department of Neurology, Neurosurgery, Stereotactic and Radiation Neurosurgery, Radiodiagnostics and Nuclear Medicine/PET Centre. Na Homolce Hospital is one of the three biggest epilepsy and epileptosurgical centres in the Czech Republic with the highest number of surgical patients. The specialised **Intensive Care Unit for the treatment of acute and very critical neurological cases** also serves as a postgraduate training centre for neurologi-

cal intensive care. In 2013, 26 mechanical removals of endovascular thrombi and intra-arterial thrombolyses, and 52 intravenous thrombolyses were carried out in the intensive care unit.

In addition to outpatient care for the treatment of general neurological disorders, there is also **Neurovascular Outpatients and Spinal Counselling** that is also involved in surgical interventions of the spinal canal and also **Extrapyramidal Counselling** and **Counselling for Neuro-immunological CNS Diseases**. The Diagnostics section consists of the **Evoked Potentials Laboratory**, the **EEG Laboratory**, the **Electromyography Laboratory** and the **Transcranial Doppler Ultrasound Unit**.

The Centre for Sleep Disorders, which includes a sleep laboratory, has been continuing its activities and, with a capacity of two monitored beds, has been monitoring sleep using polygraphs. In 2013 we admitted 211 patients to the Centre for Sleep Disorders.

**The Department of Neurosurgery is an essential part of the Comprehensive Cerebrovascular Centre**, the status for which was received by Homolka Hospital in April 2010. The Head of Neurosurgery is also the chief of this centre.

In 2013 the doctors of the Department of Neurosurgery were involved in undergraduate training for the First and Third Faculty of Medicine, Charles University and in postgraduate studies within the IPVZ (Institute of Postgraduate Studies in Health Care) in the following areas: acute neurology, neuro intensive care, epileptology, electroencephalography and electromyography. ■

Basic data	
Number of beds	33
Standard	21
Intensive	6
EMU	4
Sleep laboratory	2
Number of doctors	14
Number of general nursing staff	60
Number of outpatient examinations	17,877
Number of admissions	1,555
Bed occupancy rate (%) - standard	77.8
Bed occupancy rate (%) - intensive beds	91.1
Average length of stay (days)	5.2
Standard	4.0
Intensive	10.6

# Summary of Activities of Clinical Programmes

## NEUROLOGICAL – NEUROSURGICAL PROGRAMME

### DEPARTMENT OF NEUROSURGERY

*Head of Department Jan Klener, MD*

In 2013, in order to provide comprehensive and safe services and to improve the quality of life of its patients, the Department of Neurosurgery maintained its specialist activity in complex diagnostics, surgical treatment and follow-up care of patients suffering with diseases of the central and peripheral nervous system.

These activities, which mainly involve the neurosurgical treatment of patients with diseases of the brain, base of the skull, spinal cord, spine and peripheral nervous system, are complemented by education, preoperative diagnostics, our own surgical treatment and postoperative neurointensive and follow-up care. Emphasis is mainly put on the high quality of surgical and post-operative care by the use of modern practice and technology and to minimise stress and risks to patients by good communication with the patients and maintaining JCI accreditation standards.

The care of patients has been traditionally carried out within the key areas of **neuro-oncological, neurovascular, and functional neurosurgery and spondylosurgery (spinal) programmes**. A total of 2,727 operations were performed in 2013 and 2,938 patients were hospitalised and 13,209 were treated as outpatients. The Department of Neurosurgery in Na Homolce Hospital is not only a national but also an international centre for the treatment of a number of medical conditions. The morbidity rate seen with planned operations falls within both 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 2013 surgical treatment was performed in a multi-functional complex operating theatre equipped with modern technology – intra-operative magnetic resonance imaging and navigational operating systems,

operating microscopes and intra-operative electrophysiological monitoring. Integration of operating theatre technologies enables us to provide patients undergoing operations of the brain, spinal cord or spine a higher standard of precisely targeted, highly efficient and safe treatment.

**The Neuro-oncological 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 our surgical treatment we emphasize the so-called “minimally invasive” approach which reduces the burden on the patients. So, in suitable cases, we prefer to use the so-called “keyhole” into the cranium and employ “non-retraction” neurosurgery, which minimises any trauma to the brain. The Neurosurgery Department 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 neuro-navigation, intraoperative fluorescent visualisation of tumours or perioperative electrophysiology monitoring. In 2013 the first three resections of problematic brain areas (speech centre) were carried out with very good results where the patient was temporarily woken up during the operation so that they could cooperate with the surgeons.

#### Number of surgical operations

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
1,744	1,837	1,930	1,974	2,203	2,107	2,115	2,226	2,152	2,495	2,437	2,556	2,524	2,727

Basic data	
Number of beds	65
Standard	45
Intensive	8
Intermediate	12
Number of doctors	17
Number of general nursing staff	88
Number of outpatient examinations	13,209
Number of admissions	2,938
Bed occupancy rate (%)	86
Average length of stay (days)	7.4

Distribution of interventions	
Cerebral tumours	210
Vascular diseases	154
Function interventions	55
Spinal diseases including tumours	1,710
Craniocerebral injuries	91
Others	505
Total	2,727



# Summary of Activities **of Clinical Programmes**

## **NEUROLOGICAL - NEUROSURGICAL PROGRAMME**



# Summary of Activities of Clinical Programmes

## NEUROLOGICAL – NEUROSURGICAL PROGRAMME

Neuroendoscopic treatment is being developed with selected cases of hypophyseal adenoma and ventricular tumours. In 2013, in addition to its own surgical programme, the Department of Neurosurgery also promoted other treatment methods such as by regular interdisciplinary neuro-oncology seminars, which were attended by a multidisciplinary team of specialists in Na Homolce Hospital and by oncologists from Motol Teaching Hospital and the Bulovka Proton Centre (fractionated radiotherapy, chemotherapy, radio-surgical treatment especially on Leksell Gamma Knife or proton treatment).

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

The main task here is the comprehensive care of patients with subarachnoid haemorrhage, which includes both treatment of the most frequent cause – a perforated cerebral aneurism - as well as neurointensive and other care. Many microsurgical and endovascular techniques are available as treatments and in 2013 these included plain clipping, clip reconstruction, temporary clipping and remodelling, trapping and indirect methods by using vascular occlusion and revascularisation techniques for bypasses. Our neurosurgeons also apply the 'minimal' approach to surgery and cerebral retraction and used the modern and effective techniques of electrophysiological imaging, intraoperative videoangiography and velocimetry. In 2013 we also used adenosine to arrest the circulation during a brain aneurysm operation. Interventional radiologists also have endovascular methods for the treatment for aneurysms at their disposal. Microsurgery and endovascular treatments are available on a 24hr basis.

The year 2013 saw increased numbers of operations on unruptured aneurysms, arteriovenous malformations and cavernomas as well as numerous operations on spontaneous intracerebral haemorrhage. Where appropriately indicated, decompression (lightening) 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 Neurology Department.

**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**. Together with the Department of Neurology, the Leksell Gamma Knife, the Department of Radiodiagnostics, and the PET Centre we have a steady number of 30-40 indicated and surgical patients annually and the total number of patients undergoing surgery for drug resistant epilepsy has reached about 400.

Resection operations were carried out both by standard navigation technique and also by stimulation treatment (application of vagal stimulators). During the course of 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.

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 remodulation was developed in collaboration with the department of ARO.

The Department of Neurosurgery in Na Homolce Hospital is ranked among the leading centres in the Czech Republic for **the Spondylosurgery programme**. These operations are performed on the whole length of the spine using all access routes to treat degenerative diseases as well as trauma and oncological patients. Preference is given to the microsurgical approach and use of safe mini-invasive techniques using electrophysiological monitoring where appropriate. In 2013 there was an increase in the number of osteoporotic spine fractures that were resolved in collaboration with intervention radiology by mini-invasive percutaneous vertebroplasty or kyphoplasty. Surgical operations on the spine included a comprehensive spectrum of spinal lesions in 2013 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 cervical spine** (Bryan, Prestige, Prospace, Discover) for the Czech Republic and the Eastern European region.

In 2013 neurosurgeons in Na Homolce Hospital were involved in postgraduate training for the Institute for Postgraduate Studies in Health Care and organised fellowships in neurosurgery for Czech and foreign doctors.

In 2013 the Neurosurgery Department dealt with 2 grant projects, 2 world-wide multi-centre randomized studies, EF 14-TTF, ACT IV and 2 clinical studies, Prodisc C Nova Study and L-Active FDA Study. ■

# Summary of Activities of Clinical Programmes

## NEUROLOGICAL – NEUROSURGICAL PROGRAMME

### DEPARTMENT OF STEREOTACTIC AND RADIATION NEUROSURGERY

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

The clinical activity of the department is focused on non-invasive radiosurgical treatment, primarily of certain types of cerebral tumours, cerebral vascular malformations or functional cerebral diseases, using **the Leksell Gamma Knife** as well as stereotactic and functional neurosurgery. The outpatients' provides consultation and follow-up care for neurosurgery patients and specialised ophthalmological, neurophysiological and neurological care.

Na Homolce Hospital has had the latest model of Leksell Gamma Knife, Perfexion, since 2009 and this has expanded the range of medical conditions that can be treated and has enabled radiosurgery to be performed in the head and neck area, which is of great importance for the treatment of metastatic cancer. It brings considerably greater safety and accuracy as well as making it more comfortable for the patient during the radiation treatment. An essential part is the system, Extend, which expands the use of the gamma knife to include fractionated radiotherapy without the need of a stereotactic frame, i.e. a non-invasive method. Na Homolce Hospital was the first hospital in the world to introduce fractionated radiotherapy with the Leksell Gamma Knife. The Leksell Gamma Knife, Perfexion, is clearly the most sophisticated radiosurgical equipment currently in use in the world.

In 2013 there were 808 patients treated in the department. The total number of surgical interventions reached 1,129 (1,018 interventions on the Leksell Gamma Knife and 111 other surgical interventions). Foreign patients made up 11% of the total number irradiated on the gamma knife. Implantation and re-implantation of neurostimulators to treat movement disorders were carried out on 30 patients and neuromodulation intervention on 2 patients. In 2013 the development of string electrodes was successfully completed for the stereotactic treatment of temporal epilepsy in collaboration with the Canadian company, Dirostech. The total number of outpatients reached 2,514 last year.

**The Department of Stereotactic and Radiation Neurosurgery is the only centre of its kind in the Czech Republic. The quality of activities and the range of experience are considered by the profession as the foremost centre of its kind in the world.**

In 2013 the doctors of the department were involved in organising postgraduate training for the Institute of Postgraduate Studies in Healthcare. ■

Basic data	
Number of beds – care centre	8
Number of doctors	6
Number of general nursing staff	13
Number of radiological technicians	1
Number of other staff	6
Inpatient ward	
Number of admissions	808
Number of operations by Leksell Gamma Knife	1,018
Number of other stereotactic operations	111
Average length of stay (days)	1.25
Outpatients	
Number of consultations	3,326
Follow-up examinations	2,514
Number of neurostimulators implanted	23

#### Number of patients treated by Leksell Gamma Knife

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
566	735	781	803	856	798	802	819	832	856	960	1,019	1,011	1,018



# Summary of Activities of Clinical Programmes

## NEUROLOGICAL – NEUROSURGICAL PROGRAMME



# Summary of Activities of Clinical Programmes

## CARDIOVASCULAR PROGRAMME

### DEPARTMENT OF CARDIOLOGY

**Head of 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 with a higher risk of these diseases. In 2013 the department comprehensively covered the following individual specialised areas.

**Acute cardiology** together with the coronary unit provides comprehensive cardiological intensive care to patients who suffer from acute heart diseases over the whole range of this specialisation. The department has been equipped with the necessary equipment to monitor, support and substitute essential vital functions.

**Intervention cardiology** includes the catheterization laboratory that deals with the diagnostics of diseases of the coronary arteries, including therapeutic interventions, and the multifunctional catheterization centre. The number of interventions in 2013 was comparable with 2012; the number of comprehensive reversible diagnostic cauterization examinations has increased by 19% to an unprecedented 225 interventions. A total of 3,166 catheterization interventions were carried out. However, the number of coronary interventions dropped by 15% compared with 2012. The increase in comprehensive catheterization examinations was related to a higher proportion of patients with comprehensive structural heart defects. There were further developments to the programme of structural cardiac interventions including patent foramen oval closure, atrial septal defect, stenoses and closures of paravalvular leaks. The cardiologists in Na Homolce Hospital performed some unique combined cauterization interventions for structural heart defects.

In 2013 the multifunctional programme of cauterisation implantations of aortic valve was reopened and 10 interventions were carried out from July to December 2013. The development of percutaneous coronary intervention with different types of circulatory support has also been continuing.

The department prepared or actively participated in a number of specialised programmes and presentations at specialised conferences and congresses in the Czech Republic. The department, together with other centres, also organised a professional programme to present intervention cardiology in the Czech Republic to the most prestigious European Congress (Euro PCR 2013).

The **Multifunctional cauterisation department** specialises in **cardiac electrophysiology**, especially **the diagnosis and treatment of heart rhythm disorders**.

The number of **cauterisation ablations** carried out in 2013 on the multifunctional catheterization site increased to 940 interventions compared with 2012. The department achieved the highest number of ablations carried out in the Czech Republic. There is a clear move towards comprehensive ablations which make up nearly 2/3 of all electrophysiological procedures, which mainly involves ablation of atrial fibrillation, atrial and ventricular tachycardia. A remote navigation technique (Stereotaxis, Hansen Medical) was routinely used in 2013 and ablation technology such as cryoablation and laser ablation which are otherwise not common in the Czech Republic. The magnetic navigation system was used to great advantage in the treatment of arrhythmia in pati-

Basic data	
Number of beds	52
Standard	30
Intermediate	4
Intensive	18
Number of doctors	34
Number of general nursing staff	127
Number of outpatient examinations	41,770
Number of admissions	5,029
Number of examination days	14,414
Standard	9,084
Intensive	5,330
Bed occupancy rate (%)	77.89
Standard	75.05
Intensive	83.26
Average length stay (days)	2.87

Coronary Unit	
Outpatients electrical cardioversion	420
Acute coronary syndrome	391
Acute heart failure	134
After resuscitation care	46
Pulmonary embolism	35
Total mortality	6.41 %

# Summary of Activities of Clinical Programmes

## CARDIOVASCULAR PROGRAMME

ents suffering from congenital heart defects, ventricular tachycardia and after cardiosurgery using the MAZE procedure.

**The first implantation of a wireless cardiostimulator (Nanostim, SJM, USA) was an absolute novelty and a world premiere at the end of 2012 in the Department of Cardiology Na Homolce Hospital and a study to verify the safety of this system was completed in 2013** (22 patients in total). The new EBR system became another initiative in treating patients with chronic heart failure where traditional resynchronisation treatment has been ineffective. It consists of two main components: a subcutaneous ultrasound emitter and 9mm chip which is implanted by cauterisation technique in the endocardium of the lateral left atrium. 12 patients were successfully treated in a SELECT-LV study. There were no significant problems or side-effects recorded. Methods for renal denervation have also been advancing and the cauterisation laboratory has carried out the world's first complete renal sympathetic denervation by non-invasive ultrasound ablation using the KONA system.

Na Homolce Hospital has been for a long time one of the largest European centres **for the implantation of cardiostimulators and defibrillators** (ICD) in the Czech Republic. The hospital became once again the centre with the highest number (1,163) of implantations in 2013. The specialisation of the multifunctional catheterization department is mainly the implantation of defibrillators and cardiac resynchronization therapy. As the largest centre it has had experience with the new, so-called subcutaneous ICD (s-ICD), type of defibrillator and implanted

18 of these in 2013. A clear advantage of these devices is that, instead of having to use X-rays and of entering the vascular stream in order to implant an electrode in the right heart ventricle, only a subcutaneously implanted electrode is needed. There are other procedures with implants that require the stimulating or defibrillating electrodes to be extracted. There were a total of 54 of these procedures safely carried out in 2013.

The Cardiology Department is a unique centre in resolving cases of **alternative anticoagulant therapy** in the Czech Republic by percutaneous closure of the left atrial appendage of which there were 19 procedures carried out in 2013. The Department of Cardiology carried out studies involving the implantation of a Watchman occlude with only intracranial ultrasound navigation in 2013.

**Non-invasive cardiology** has, in the recent past, offered patients a wide range of diagnostic tests for cardiovascular diseases. The tests include ultrasound, electrocardiographic and echocardiography stress tests, long-term monitoring of cardiac rhythm, blood pressure and others. In 2013 we saw an increase in the number of echocardiography examinations. Three-dimensional echocardiography has become a routine method in suitable cases; its strong point is seen mainly when used in conjunction with invasive cardiology and cardiosurgery. Accreditation in echocardiography, which was awarded by EAE (European Association of Echocardiography), to the Department of Cardiology in Na Homolce Hospital, has been extended to 2016.

The number of examinations of the **Outpatients' Department for Cardiac Care** reached 40,270 in 2013. With regards to outpatient care in 2013, the **outpatients' department for chronic anticoagulation patients and**

Multifunctional Catheterisation Unit	
Total ICD	482
of which biventricular	219
Subcutaneous ICD	17
Neurostimulation (Implants/replacements)	9/2
Reveal implantation/explantation	31/25
Nanostim	18
Total catheter ablation	940
Atrial fibrillation, atrial tachycardia	523
AVNRT	112
WPW syndrome	45
Atrial flutter	92
Ventricular tachycardia	91
- Structural	48
- Idiopathic	43
Ablation of renal arteries	58
Closure tabs LS	19
Total pacemakers	679
Primo-implantation	380
Replacement of KS	299
Extraction	54

Antiarrhythmic Unit	
Electrical cardioversion	106



# Summary of Activities of Clinical Programmes

## CARDIOVASCULAR PROGRAMME

**the specialist outpatients' department for heart failure** focused on continuous monitoring of patients with heart failure and cared for patients with advanced stages of heart disease. All departments and outpatients' with different specialisations are involved **in the programme of multidisciplinary care for patients with heart failure and outpatients' specialised in hypertension treatment.** A number of examinations in **the Angiology Outpatients' department** has considerably increased to 4,516. The project for joint experimental laboratories in the Institute of Physiology of the 1<sup>st</sup> Faculty of Medicine, Charles University continued to develop in 2013. The Department of Cardiology in Na Homolce Hospital is a training centre for the robotic navigation (Hansen

Medical) for Central and Eastern Europe and with the workplace with experimental verification of different types of cardiac support, new ablation technology and treatment by devices.

In 2013 doctors from the Department of Cardiology were involved in organising undergraduate training for the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Medical Faculty of Charles University and post-graduate studies within the Institute of Postgraduate Studies in Healthcare.

The international clinical studies, Nectar HF, CABANA, and DEFEAT HF were carried out in the Department of Cardiology and its doctors were involved in the conduct of an additional 30 clinical studies in 2013. ■



### Intervention Cardiology – specialised interventions procedures

Diagnostic catheterisation	2,916
Ventriculography	595
Bilateral cardiac catheterisation	225
Percutaneous Coronary Interventions (PCI)	891
Primary PCI	197
Stents:	
Number of patients	779
Number of stents	1,118
Fraction flow reserve	209
Intravascular ultrasound	98
Occlusion DSS/PFO	44
Immediate complications after PCI:	
Emergency bypass surgery (CABG)	0
Mortality associated with PCI	0

### Non-invasive cardiology

General outpatients	13,941
Angiology	4,516
Arrhythmology	6,720
Transthoracic echocardiography	7,481
Oesophageal echocardiography	903
Dobutamine stress test	7
Holter EKG + Recollect + Loop monitor + Omron EKG	1,599
EKG stress test	603
Monitor TK	906
Tilt test	60
Anticoagulation outpatient	3,534

# Summary of Activities of Clinical Programmes

## CARDIOVASCULAR PROGRAMME

### DEPARTMENT OF VASCULAR SURGERY

**Head of Department Assoc. Prof. Petr Štädler, MD, PhD**

The department deals with surgical and angioradiological invasive diagnostics and the treatment of diseases of the vascular system, primarily the narrowing or occlusion of blood vessels as a consequence of damage due to atherosclerosis, and also injuries of the arterial and vascular system apart from the coronary arteries, ascending aorta and the aortic arch. It is the only centre with nationwide coverage specialising in the comprehensive treatment of vascular-surgical problems from radical replacement of the thoracoabdominal aorta to palliative interventions such as radiofrequency sympathectomy. The surgery is focused on minimising invasive approaches by using endovascular and robot-assisted methods. The department provides 24-hour emergency surgical care for all unexpected vascular-surgical conditions. In 2013 the range of surgical interventions included operations on branches of the aortic arch, thoracic and abdominal aorta including aneurysms, reconstruction of arteries supplying abdominal and retroperitoneal organs, arteries supplying the limbs as well as varicose veins and a unique translation of vascular grafts to deal with the infection of vascular prostheses. In 2013 the Vascular Surgery Department still remains the place with the highest number of operations on the thoracic and thoracoabdominal aorta in the Czech Republic. Patients with ischemic disease of the lower limbs and with narrowing of the arteries supplying blood to the brain made up one of largest groups in 2013. From among the modern mini-invasive approaches the department has carried out thorascopic thoracic or laparoscopic lumbar sympathectomies, endoscopic operations of varicose veins and the abdominal aorta by way of reduced surgical approaches, the so-called mini-laparotomies, and particularly by robot-assisted vascular surgery.

The Vascular Surgery Department experienced a drop in robot-assisted interventions due to the restrictive policy of the Ministry of Health and health insurance companies in 2013. Nevertheless, this department has managed to maintain its worldwide position in **robot-assisted vascular surgery** and national leading position in surgery of the thoracoabdominal aorta.

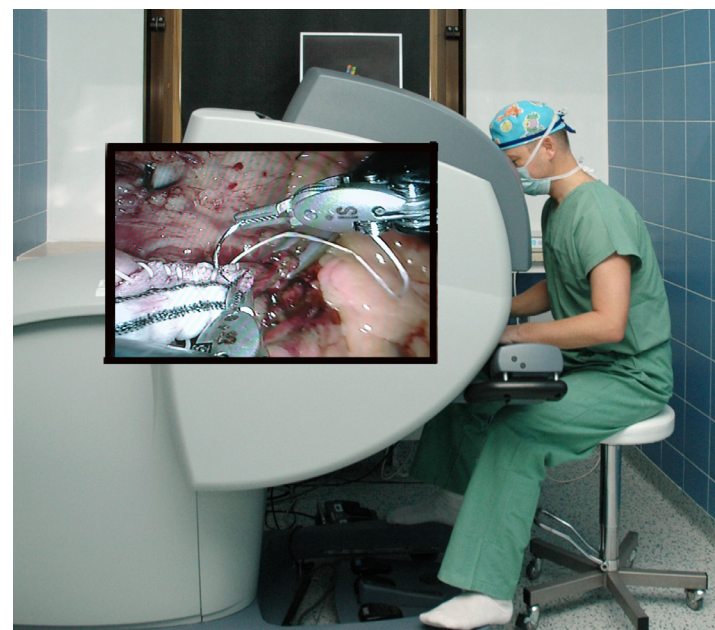
There were 264 robot-assisted vascular interventions by the end of 2013 in the department, which makes it the world leader in this area. Some types of robot-assisted interventions were performed in as world premieres and this experience has been passed on to, not only national, but also international centres in the USA and Asia. The Vascular Surgery Department in Na Homolce Hospital is an international training centre in robot-assisted vascular surgery.

**Endovascular surgery** represents another important area of the department 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 Radio-diagnostics in Na Homolce Hospital. A specialised team of doctors has been established for these interventions.

Successful workshops on **radiofrequency operations of varicose veins in the lower limbs** were organised for doctors from the Czech Republic and Slovakia in 2013.

The Department of Vascular Surgery also performs demanding interventions to treat infections of vascular prostheses by the transplantation of vascular allografts.

Basic data	
Number of doctors	17
Number of nurses	113
Total number of outpatient examinations	12,822
Number of beds	61
Standard	36
Intermediate	13
Intensive	12
Number of hospital admissions	2,408
Number of hospitalised patients	1,779
Bed occupancy (%)	77.22
Average length of stay (days)	7.02
Total number of treatment days	16,912
Mortality (%)	1.16





# Summary of Activities of Clinical Programmes

## CARDIOVASCULAR PROGRAMME

Na Homolce Hospital, together with IKEM, VFN Prague and the Tissue Bank at FN Hradec Kralove became joint founders of a programme for the cryopreservation of blood vessel 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 the treatment of a range of serious vascular problems.

The Department of Vascular Surgery in Na Homolce Hospital organised undergraduate training for the 1<sup>st</sup> Faculty of Medicine of Charles University in vascular surgery and Postgraduate Studies in Healthcare and studies in robot-assisted surgery for the European Institute of Telesurgery in Strasbourg. It also plays a role as a super-consultancy centre for serious and complicated angiosurgical cases. ■



### Breakdown of surgical interventions

Thoracic aneurysm	26
Thoracofemoral bypass	2
Abdominal aneurysm	150
Aneurysm of pelvic arteries	1
Aneurysm of popliteal artery	13
Aortofemoral reconstructions	75
Pelvic reconstruction	27
Extra-anatomic reconstruction in aortoiliac area	27
Solution of infection of vascular prosthesis	10
Operations on branches of aortic arch	205
Femoropopliteal proximal reconstruction	66
Reconstruction of arteries in groin	123
Total varicose reconstructions	173
Operations on varicose veins	278
Minimally invasive interventions	
Robotic operations	21
Laparoscopic operations	10
Thoracic sympathectomy by thoracoscopic method	7
Lumbar sympathectomy by laparoscopic method	5
Endoscopic sampling of VSM to reconstruction	3
Vascular intervention in collaboration with RTG	337

### Total number of interventions

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
1,349	1,552	1,573	1,625	1,410	1,585	936	906	906	1,390	1,548	1,618	1,609

# Summary of Activities of Clinical Programmes

## CARDIOVASCULAR PROGRAMME

### DEPARTMENT OF CARDIAC SURGERY

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

The Department of Cardiac Surgery in Na Homolce Hospital is one of the biggest cardiac surgery centres in the Czech Republic. It deals with **comprehensive surgical treatment of heart and major endoathoracic vessels**. An essential part of its activities is outpatient monitoring of selected groups of patients before and after cardiac surgery. In total, 847 cardiac surgeries were carried out in 2013.

There has been a clear trend towards **valvular surgery** that accounted for 56% of all operations in 2013. The department continued developing its **programme for the surgical maintenance of mitral valves and reconstructive interventions** of the left ventricle and, as a consequence, the average number of mitral valvuloplasties amounted yet again to 70% of all mitral interventions. At the same time, the department continued in its **programme of mini-invasive operations of cardiac valves**, minithoracotomy interventions with isolated interventions for mitral or tricuspid defects of atrial septa and myxomas came to more than 50% in 2013 compared with the classic sternotomy approach.

In the assessed period the department, together with the Department of Cardiology, continued developing the programme of **intraoperative cryoablations** for patients with chronic fibrillation of the auricles (MAZE) and 146 patients were treated by this method in 2013. Na Homolce Hospital remains the centre where the highest number of these interventions has been carried out in the Czech Republic. In 2013 the hospital further developed the programme to perform these interventions with isolated fibrillation of the auricles by a minimally invasive approach.



Basic data	
Number of doctors	18
Number of general nursing staff	100
Total number of outpatients visits	6,402
Number of beds	34
Standard	14
Intermediate	10
Intensive	10
Number of hospitalised patients	933
Bed occupancy (%)	85.57
Average treatment period (days)	11.30
Total number of treatment days	10,541
Mortality (%)	1.89

# Summary of Activities of Clinical Programmes

## CARDIOVASCULAR PROGRAMME

Last year **thoroscopic interventions** were implemented for radiofrequency **ablation of fibrillation of cardiac atrias** and **implantation of stimulation electrodes**.

In 2013, the department, together with the Department of Vascular Surgery and the Department of Radio-diagnostics, worked on **interdisciplinary care of patients with comprehensive disorders of the aortic arch**, mainly focusing on the endovascular treatment of these patients. Na Homolce Hospital carried out the greatest number of interventions on the thoracic aorta of all centres in the Czech Republic and the thoracic aorta of 84 patients were operated on including operations on the arch and descending aorta.

In 2013 **the programme of care for adult patients with congenital heart defects** was systematically developed. The programme consists of a specialised outpatients' department for adult congenital heart defects both for their surgery and for their post-operative care, all of which is provided by the Department of Cardiac Surgery in Na Homolce Hospital together with the Paediatric Cardiocentre at Motol Teaching Hospital. In 2013, 720 such patients were treated in Na Homolce Hospital. ■



### Surgical interventions

Isolated aortocoronary reconstructions	285
Combined aortocoronary reconstruction. (EACI, MAZE etc.)	21
Cardiac valve replacement/plastic surgery	471
Isolated operations on ascending aorta and arch	23
Other (myxoma, pericardectomy, PM extraction)	36
Epicardial stimulator electrode implants	11
Total	847
MAZE operations (combined with other interventions)	146
Total thoracic aorta operations (combined with other interventions)	84
Minimally invasive interventions	72
Robot-assisted operations	0
Acute and emergency operations	64
Planned operations	783



# Summary of Activities of Clinical Programmes

## CARDIOVASCULAR PROGRAMME

### DEPARTMENT OF CARDIAC ANAESTHESIOLOGY

*Head of Department Pavel Jehlička, MD, MBA*

The Department of Cardiac Anaesthesiology is an essential part of the Cardiocentre in Na Homolce Hospital and covers two basic areas - anaesthesiological **care for cardiosurgery and cardiology and also intensive care for the cardiology unit of postoperative and resuscitation care.**

It provides anaesthesia care for patients who are undergoing either cardiosurgical operations, with or without extracorporeal circulation, or cardiosurgical robot-assisted operations with a minimally-invasive approach. For cardiological patients it ensures anaesthesia for complicated heart mapping in arrhythmology, anaesthesia for the extraction of stimulation systems and anaesthesia for electrical cardioversions.

The department ensures the intensive care function of the Cardiosurgical Unit for post-operative care and resus-

citation and also liaises with the Cardiosurgery Unit for intermediate care. Within the Cardiocentre it supports other units of intensive cardiology care. It is involved in the programme of extracorporeal support of circulation with patients in carcinogenic shock together with the Cardiology Department and the Department of Biomedical Engineering.

As the only such department in the Czech Republic, the Department of Cardiac Anaesthesiology in Na Homolce Hospital performs anaesthesia in robot-assisted cardiosurgical operations and the anaesthesia for operations on adult patients with congenital heart defects. ■

#### Basic data

Number of doctors	8
Number of general nursing staff	7

#### Total number of anaesthetics administered

Cardiosurgery interventions	877
Cardiological interventions	697
Interventions longer than 2 hours	848
Patients over 65	548



# Summary of Activities of Clinical Programmes

## PROGRAMME OF GENERAL MEDICAL CARE

### DEPARTMENT OF INTERNAL MEDICINE

*Head of Department Milan Čech, MD*

The department provides preventive, diagnostic and conservative treatment for diseases of an internal nature and has a markedly above-regional subspecialisation in **gastroenterology and pneumology**.

One of the traditional job descriptions of the department includes care for patients with short bowel syndrome and ensuring their **long-term parental nutrition**, which includes treatment of the complications (sepsis, thromboses) that are inevitably connected with this therapy. The department routinely carried out bedside sonography and interventions under ultrasound control (central cannulation, dg/evacuation puncture etc.).

Apart from general internal medicine, the department also provides outpatient service for **diabetology, endocrinology, consultancy for home parental nutrition, obesitology, lipid consultancy, internal pre-operation consultancy and acute internal outpatients**, which is used for the treatment of acute internal patients, the administration of infusions, including planned haemostat substitutions, and outpatient diagnostic and therapeutic interventions.

In 2013 the department continued to provide essential clinical back-up to the key areas of the Cardiovascular Programme and Neuro-programme in Na Homolce Hospital.

**The Unit of Intensive Care** focused on internally polymorbid and, mainly, patients with complicated infections.

**Gastroenterology Unit** is the centre for the biological treatment of unspecified intestinal inflammations and for colorectal carcinoma screening.

**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 existing ones, such as PET-CT in the Department of Nuclear Medicine, provides an exceptional opportunity for early diagnosis and staging of bronchogenic carcinoma followed by pneumo-oncological treatment.

In 2013, doctors in the Internal Department were involved in the undergraduate studies for 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> Faculties of Medicine of Charles University and also postgraduate studies within the Institute of Postgraduate Studies in Healthcare. The department also fulfilled its function in 2013 as a training centre in the specialised field of "Artificial Nutrition and Metabolic Care". ■

#### Endoscopic interventions

Gastroscopy	2,400
Colonoscopy	2,683
Endoscopic ultrasonography	677
ERCP	444
Endoscopic papillosphincterotomy	267
PEG	31

#### Basic data

Number of beds	29
Standard	21
Intensive	8
Number of doctors	25
Number of general nursing staff	57
Number of outpatient examinations	13,582
Diabetology examinations	2,799
Gastroscopy examinations	8,749
Flexible and autofluorescent bronchoscope	1,051
Functional examination of lungs	2,983
Number of hospitalisation	1,208
Total number of days of treatment	9,294
Total number of days treated in JIP	2,560
Bed capacity (%)	
Standard	89.27
Intensive	93.36
Average length of stay (days)	
Standard	6.01
Intensive	7.66

# Summary of Activities of Clinical Programmes

## PROGRAMME OF GENERAL MEDICAL CARE

### DEPARTMENT OF ONCOLOGY

*Head of Department Martin Šafanda, MD*

The Department of Oncology specialises in the **treatment of adult patients with malignant tumours**. The oncology treatment is divided into 4 key areas: **the gastroenterological, mammological, urogynaecological, and the pneumo-oncological programme**.

With the exception of irradiation therapy, the department performs antitumor therapies for all indications – adjuvant, neoadjuvant and palliative. Diagnostic procedures with the most frequent malignant tumours are multidisciplinary and within each working group there are specialists in radiodiagnostics, surgery, internal medicine, gynaecology and pathology from Na Homolce Hospital. The radiotherapy is carried out together with Motol Teaching Hospital.

The Department of Oncology in Na Homolce Hospital liaises with the Comprehensive Oncology Centre of Motol Teaching Hospital. ■

#### Basic data

Number of doctors	4
Number of general nursing staff	5
Number of newly admitted patients	606
Number of outpatient examinations	13,250
Number of performed chemotherapies	9,350



# Summary of Activities of Clinical Programmes

## PROGRAMME OF GENERAL MEDICAL CARE

### DEPARTMENT OF GENERAL SURGERY

*Head of Department Michal Toběrný, MD, MBA*

The services of this department cover a wide range of diagnostics and surgical treatments in **general surgery, orthopaedics and urology**. The outpatients' clinic not only includes **counselling centres for abdominal, gastroenterological and lung surgery and oncosurgery but also mammology, phlebology, bariatric, outpatients' for orthopaedics, urology and minor surgical interventions**. The intensive care unit provides post-operative care for complicated and life-threatening conditions.

**General surgery**, as in previous years, this includes abdominal and thoracic surgery by using minimally-invasive methods in all areas of laparoscopic surgery with an emphasis on one-day surgery. Lung surgery was intensively developed in collaboration with the hospital in Liberec and the General University Hospital in Prague. An essential part of the care provided by the department continues to be oncological surgery of the digestive tract, mammology and bariatric surgery for morbid obesity. In 2013 the **surgical team** routinely carried out a number of interventions mainly using laparoscopic plastic repair of inguinal and frontal hernias, laparoscopic bariatric surgery, operations of anal prolapse and haemorrhoids using the Long method, or laparoscopic interventions of oesophagus reflux disease or intra-operative radiofrequency ablation to treat liver metastasis in colorectal carcinoma. The development of laparoscopic surgery continued last year and specially in the most demanding laparoscopic procedures on the colorectal and gastrointestinal tract. Over the last year, the health insurance companies have only allowed robot-assisted procedures for urological interventions. **Orthopaedic operations** performed last year included arthroscopic interventions, complete replacement of joints including shoulder and ankle, as well as reimplantation of joints, and modern procedures for osteotomy in foot

surgery. The system of orthopaedic navigation is routinely used for surgery on large joints. Similar **Urological operations** were carried out as in the previous year and included open and endoscopic surgery of the urinary system including urological oncosurgery using minimally-invasive laparoscopic, cystoscopic and ureterorenoscopic surgical methods. Procedures using **the da Vinci robotic operation system** were routinely carried out in the assessed period in particular for radical prostatectomy, pyeloplasty and kidney resection.

In 2013, doctors of the Department of Surgery were involved in undergraduate training for the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Faculty of Medicine and postgraduate training for the Institute for Postgraduate Studies in Healthcare. ■

Basic data	
Number of beds	31
Standard	16
Intensive	9
Intermediate	6
Number of doctors	22
Number of general nursing staff	61
Number of outpatient examinations	41,655
Number of hospitalisations	2,504
Number of surgical interventions	2,607
Number of days of treatment	9,513
Bed capacity (%)	88.33
Average length of stay (days)	3.80
Mortality	8

Number of outpatient examinations	
Surgery	15,873
Orthopaedics	13,630
Urology	12,152
Total	41,655

Number of admissions by diagnosis	
Neoplasm	528
Diseases of digestive system	984
Orthopaedic diseases	584
Urological diseases	173
Benign tumours	93
Morbid obesity	9
Other diseases	134

Number of surgical operations	
Surgery	1,321
Urology	268
Orthopaedics	522
Robotic operations	102
Small outpatient interventions	394
Total	2,607

# Summary of Activities of Clinical Programmes

## PROGRAMME OF GENERAL MEDICAL CARE

### DEPARTMENT OF GYNAECOLOGY AND MINIMALLY INVASIVE SURGERY

*Head of Department Petr Popelka, MD*

The activities of the department cover diagnostics and surgical treatment of gynaecological diseases with an emphasis on minimally invasive approaches. In 2013, comprehensive pelvic and gynaecological surgery concentrated on the four main clinical programmes: **onco-gynaecological surgery, urogynaecological surgery, comprehensive diagnostics in endometriosis surgery, and general gynaecological surgery.**

**Oncological and oncolaparoscopic surgery** includes classic laparoscopies and laparoscopically assisted and laparoscopic vaginal surgery for tumours of the vulva, cervix, endometrium and ovaries and follow-up post-operative care for surgical patients and those treated for cancer in a special clinic. The department has the use of modern surgical approaches and technology that give greater accuracy and shorten the time needed to complete oncolaparoscopic interventions. An essential part of the department is a unique **programme of comprehensive laparoscopic solutions for cervical cancer.**

**Urogynaecologic surgery** covers both diagnostic and surgical and conservative treatment of incontinence and pelvic floor disorders with emphasis on laparoscopic solutions for the given problems. 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 450 patients with the above problems were operated on in the department.

**The Programme for comprehensive diagnostics and endometriosis surgery** offers comprehensive treatment to patients from the Czech Republic including radical laparoscopic surgery, predictive histological diagnosis of growth factors and follow-up hormonal therapy with final verification of success. The Department of Gynaecology in Na Homolce Hospital is one of the most experienced centres in the Czech Republic in performing radical operations of retroperitoneal endometriosis. In 2013, the department carried out 23 interventions for retroperitoneal endometriosis.

**General gynaecological 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 of the uterus. Hysteroscopy operations include diagnostic and surgical endoscopy of the uterine cavity.

The total number of surgical interventions in 2013 came to 1,813 operations, of which 90% were performed by minimally-invasive methods including oncological interventions. ■

Basic data	
Number of beds	26
Standard	20
Intensive	6
Number of doctors	8
Number of general nursing staff	22
Number of outpatient examinations	16,330
Number of hospitalisations	1,864
Number of surgical interventions	1,813
Number of days of treatment	4,936
Bed capacity (%)	57.85
Average length of stay (days)	2.65



# Summary of Activities of Clinical Programmes

## PROGRAMME OF GENERAL MEDICAL CARE

### DEPARTMENT OF ENT / HEAD AND NECK SURGERY

*Head of Department Prof. Jaromír Astl, MD, PhD (until 31. 5. 2013)*

*Head of Department Petr Jiráček, MD (from 1. 6. 2013)*

The department specialises in diagnostics and the conservative and surgical treatment of the ear, nose and throat. The surgical procedures carried out in 2013 include **surgery of the head and neck concentrating on the nose and paranasal cavities including endoscopic interventions, comprehensive surgery of the thyroid and parathyroid glands, cophosurgery 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 to the base of the skull** has been developed in collaboration with the Department of Neurosurgery.

**The Programme of lower jaw treatment** continued in 2013 with regular articular operations of outpatients. The treatment of diseases of jaw joints were mainly conservative and minimally-invasive (arthrocentesis under local anaesthesia and arthroscopic surgery).

In the field of **thyroid surgery** the department keeps up with international trends and uses minimally-invasive surgery to remove thyroid tissue by the MIVAT method. They carry out the whole range of operations, starting from partial up to extensive interventions including removal of the entire gland as well as providing comprehensive postoperative care.

In 2013, the department expanded its interventions for patients with **sleep apnea and rhonchopathy syndrome**

and these interventions employ a radiofrequency method which reduces the time needed for healing and reduces the discomfort experienced by the patients after the operation.

In 2013 the outpatients' department provided a comprehensive service including specialised counselling in **oncology, otoneurology, cophosurgery and otoprosthesis, outpatients' for rhinopathy, thyroid, corrective surgery of nose, foniatri, and care for salivary glands and joints**. An important part of the care is provided by the **outpatients' clinic for sleep and snoring disorders** mainly in collaboration with the Department of Neurology and the Laboratory for Sleep Disorders. The department also has a **paediatric practice**. The department continued developing an **aesthetic programme**, which primarily includes procedures on auricles, external nose and includes laser operations.

In 2013, the department routinely used the NBI method (Narrow Band Imaging) during the examination of the larynx and the entire ENT, which enables diagnostic examinations to be made more frequently and accurately and makes possible the early diagnosis of serious vocal cord diseases.

Doctors from the Department of ENT / Head and Neck Surgery were involved in undergraduate teaching for the 3<sup>rd</sup> Faculty of Medicine and the Faculty of Education of Charles University. ■

Basic data	
Number of beds	11
Standard	8
Intensive	3
Number of doctors	8
Number of general nursing staff	20
Number of outpatient examinations	11,469
Number of consultations	1,595
Number of hospitalisations	1,254
Number of surgical interventions	2,079
Number of days of treatment	
Standard	1,2
Intensive	1,0
Bed capacity (%)	84.4
Standard	1.5
Intensive	1.0
Average length of stay (days)	
Standard	2.5
Intensive	1.0

Number of surgical interventions	
Operations under local anaesthesia	544
Operations under general anaesthesia	934
FESS operations	150
Operations of thyroid gland	214
MLS	110
Oncological dg.	127

# Summary of Activities of Clinical Programmes

## PROGRAMME OF GENERAL MEDICAL CARE

### DEPARTMENT OF ANAESTHESIOLOGY AND RESUSCITATION (ARO)

*Head of Department Zbyněk Fuksa, MD*

The Department of Anaesthesiology and Resuscitation provides **comprehensive care for patients prior to, during and after surgery and administers not only general anaesthesia but also more demanding types of local anaesthesia.**

**The Resuscitation Unit** performs comprehensive diagnostics and treatment of patients whose general state of health is affected by life-threatening disorders of their basic vital functions and who require the highest level of medical care. The majority of patients suffer from loss

of consciousness, blood circulation and breathing either when hospitalised or after resuscitation by RZP. The department is equipped with a hyperbaric chamber for artificial pulmonary ventilation and other special methods of resuscitation care.

The department has a specialised team for **the treatment of acute pain**, which systematically monitors and treats acute pain in patients admitted to the hospital.

**Pain outpatients'** deals with patients who suffer with chronic pain. ■



Basic data	
Number of doctors	28
Number of general nursing staff	61
Number of beds	8
Use of beds (%)	83.38
Average length of stay (days)	11.17

#### Structure of departments

- 1 resuscitation ward (8 beds)
- 2 postoperative wards of Vascular Surgery (12 beds)
- 5 central operating theatres
- 3 surgery operating theatres
- 2 gynaecology operating theatres
- 1 operating theatre for robotic surgery
- 8 other operating theatres for (ENT, stereotaxis, X-Ray, stomatology, ophthalmology, ONM – PET, GASTRO, bronchology)
- 1 hyperbaric chamber

Operational activities, hospitalisation and outpatients	
Number of hospitalisations	212
Mortality (%)	26.4
Total number of anaesthesias administered	9,267
- Patients over 65 years old	2,001
- Interventions lasting longer than 2 hours	2,673
- Local anaesthesia	945
Interventions in pain clinic	589

# Summary of Activities of Clinical Programmes

## PROGRAMME OF GENERAL MEDICAL CARE

### DEPARTMENT OF CLINICAL PHARMACY

**Head of Department Pharm. D. Milada Halačová, PhD**

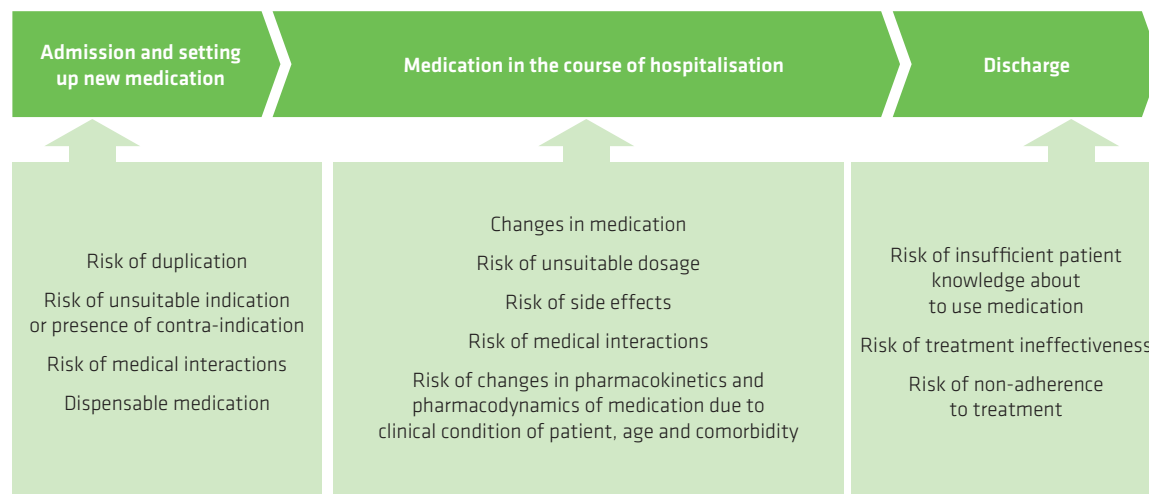
The Department of Clinical Pharmacy was established in Na Homolce Hospital in August 2010 to ensure the safety of pharmacotherapy, which is one of the major priorities of the hospital management. The departmental team consist of pharmacists with a specialisation in clinical pharmacy, or who will be included 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 first and major areas are **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 identifies any duplication of medication and evaluates the clinical importance and risks of any such interaction. In such a way it identifies problematic medications for the patient in the future or identifies any high-risk pharmacotherapeutic regimes and keeps a constant check on them. The key activity of the clinical pharmacist is **to work in the clinical department** and to liaise 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 **consulting service** within the hospital, takes part in **the development of best practice**, reports undesirable effects to SÚKL (The State Institute

for Drug Control) and is responsible for writing **protocols** for dealing with exceptional events in the hospital related to medications.

#### Collaboration with the Department of Quality Management

Na Homolce Hospital, together with the Department of Quality Management, has recognised the importance of the role that clinical pharmacy should play and has very quickly succeeded in establishing this position and integrating its activities within the hospital. The clinical pharmacist has become an essential part of accreditation and, together with doctors and nurses, is another tool to ensure safe medication. In liaison with the Department of Quality Management and the head nurses of individual clinical departments, 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. Na Homolce Hospital became the outright winner of the 5<sup>th</sup> state-wide competition "Safe hospital" in January 2013, which is judged according to the quality of the documentation of clinical pharmacists. The result is announced by the governor of the Vysočina region. The Department of Clinical Pharmacy was involved in undergraduate teaching in the Medical Pharmaceutics Faculties of Charles University, in Prague, and Masaryk University, in Brno, and in postgraduate teaching for the Institute of Postgraduate Studies in Healthcare. The Department Head is the Head of Division of Clinical Pharmacy IPVZ and a member of the Accreditation Committee of the Ministry of Health in the Czech Republic. ■



# Summary of Activities of Clinical Programmes

## OUTPATIENTS' DEPARTMENTS

### CENTRE OF ALLERGY AND CLINICAL IMMUNOLOGY

*Head Doctor Assoc. Prof. Vít Petrů, MD, PhD*

The Centre for Allergy and Clinical Immunology in Na Homolce Hospital provides **comprehensive therapeutic and preventive care to patients with asthma, allergy, immunity defects and other types of immunopathological disorders, together with a wide range of clinical and laboratory examinations**. The centre works closely with the Allergy and Clinical Immunology Laboratory which is a unit within the Department of Clinical Biochemistry, Haematology and Immunology.

**The Centre for Allergy and Clinical Immunology provides a wide range of outpatient services:**

**The Paediatric Outpatients' Clinic** cares for children who mainly suffer with bronchial asthma, allergic rhinitis and atopic eczema and repeated respiratory diseases.

**The Outpatients' for Adults** treats patients with bronchial asthma and allergies as well as patients with primary and secondary immunodeficiency. The doctors provide a consultancy service for inpatients of Na Homolce Hospital aimed particularly at patients in intensive care units and the ones with systemic autoimmune diseases.

Last year the **Patients with Allergies and Asthma Club** (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. It has been bringing together families with children with allergies for fifteen years, organising educational lectures, publishing its newsletter "Motýlek" (Butterfly), distributing the journal, "Allergy, Asthma, Bronchitis", and contributing to the improvement of care for children with allergies and asthma by their activities.

In 2013, doctors from the centre were involved in organising undergraduate teaching for the 1<sup>st</sup> and 2<sup>nd</sup> Faculties of Medicine of Charles University. The centre is an integral part of the Division of Allergy and Clinical Immunology of the Institute for Postgraduate Studies. It is also an accredited teaching centre for the further education of doctors and other medical staff in the field of allergy and clinical immunology and organises postgraduate teaching. The specialists in the centre are also actively involved in published scientific research. ■



Number of performed examinations					
Year	Number of patients	Number of examinations	Dermatology tests	Spirometry	Allergen vaccines
2005	2,733	10,086	24,991	3,925	534
2006	3,011	10,689	27,953	4,166	631
2007	3,208	11,753	26,573	4,268	738
2008	3,198	12,465	31,133	4,148	757
2009	3,455	12,153	31,018	4,908	530
2010	7,544	19,211	39,299	7,807	695
2011	6,002	11,255	39,910	8,208	856
2012	6,089	11,557	39,203	7,883	843
2013	6,124	11,305	35,642	7,645	871

Basic data	
Number of doctors	4
Number of general nursing staff	6
Number of outpatient examinations	11,305
Number of bronchitis tests	1,100
Total number of treated patients	6,124

# Summary of Activities of Clinical Programmes

## OUTPATIENTS' DEPARTMENTS

### PAEDIATRIC DEPARTMENT

*Head Doctor Zuzana Hejtmánková, MD*

The department specialises in the **diagnostics and treatment of children's diseases, care for new-born and infants and provides the services of a general practitioner for children and youths** up to 19 years of age. Specialised outpatients' units offer **paediatric endocrinology, gastroenterology, logopedics, nephrology, neurology, orthopaedics, pneumology and psychology**.

In 2013, the Neurology and Orthopaedic Outpatients' continued with their established programme of neuro-orthopaedic screening where neurological and orthopaedic observations of the patients are made so that musculoskeletal disorders such as gait, coordination and postural and neurologically conditioned defects can be detected, diagnosed and treated early on. The Endocrinology Centre, together with the paediatric units, is involved in the early detection of children with diagnosed intrauterine growth retardation and early diagnostics of juvenile thyroopathy. The psychology consulting room provides diagnostic services to the clinical psychologist for crisis intervention and long-term monitoring of a child's development. Logopaedic Outpatients' deals with the diagnostics and treatment of speech impediments. In order to diagnose inflammatory diseases quickly and to choose an effective pharmacotherapy for these conditions, the CRP ORION examination was used as an essential part of these services in 2013. A new piece of equipment, STREPTTEST, was purchased to provide quick diagnoses of streptococcal infection. ■

Basic data	
Number of doctors	3
Number of consultants and specialists	13
Number of general nursing staff	4
Number of outpatient examinations	22,996

### DEPARTMENT OF DERMATOLOGY

*Head Doctor Richard Šuraň, MD*

The department provides **therapeutic and preventative care for outpatients in dermatology** including diagnostic and long-term follow-up care for suspected tumour diseases.

Apart from basic professional examinations it also carries out phototherapy by SUP lamp, electrocauterization, and cryotherapy, sclerotherapy for varices, dermatoscopic examination of pigment formations, and Doppler and photoplethysmographic examination of the vascular system of the limb. ■

Basic data	
Number of doctors	*2
Number of general nursing staff	2
Number of outpatient examinations	6,023

\*One doctor works part-time

### STOMATOLOGY DEPARTMENT

*Head Doctor Petr Kolčava, MD*

Stomatological care covers the full range of outpatient dental care including preventive care, acute dental and follow-up services for the hospital departments. Dental hygiene is an integral part of these activities. ■

Basic data	
Number of doctors	*2
Number of general nursing staff	1
Number of dental hygienist	1
Number of outpatient examinations	6,114

\*One doctor works part-time

### DEPARTMENT OF OPHTHALMOLOGY

*Head of Department Petr Novák, MD*

The Department of Ophthalmology provides a wide range of interventions – **both basic and special outpatient ophthalmological examinations, all surgical interventions on the anterior eye segment, mainly cataract surgery and cornea transplantation**. It also includes **glaucoma surgery, surgical treatment after traumatic injury and surgery on the eyelids and surrounding area**.

The majority of these operations are performed on a day-surgery basis and cataract operations make up more than 98% of all interventions where modern methods of ophthalmologic microsurgery are used.

**Special examinations** include computer perimeter, autorefractometry, ultrasound and contactless tonometry. These examinations are meant not only for outpatients and inpatient wards in Na Homolce Hospital but also for patients from other hospitals who are referred by ophthalmologists and neurologists.

The Department offered **commercial refractory interventions** (replacement of lenses with monofocal or multifocal implants of toric and phatic lenses) in 2013. ■

Basic data	
Number of doctors	6
Number of general nursing staff	6
Number of outpatient examinations	14,503
Total number of treated patients	6,130
Total number of operations	1,301
Operation of cataracts	1,092
Commercial refraction interventions	128
Transplantation of cornea	34
Surgical correction of astigmatism	47



# Summary of Activities of Clinical Programmes

## OUTPATIENTS' DEPARTMENTS

### DEPARTMENT OF PSYCHIATRY

*Doctor Jaroslava Skopová, MD*

This department specialises in diagnostic, therapeutic and preventive psychiatric care. It liaises with a number of outpatient and inpatient psychiatric facilities in Prague and appropriate patients are referred for committal. ■

Basic data	
Number of doctors	1
Number of general nursing staff	1
Number of outpatient examinations	2,839



### DEPARTMENT OF CLINICAL PSYCHOLOGY

*Head Doctor Martin Kořán, MD, PhD*

The department provides a wide range of **diagnostic, psychotherapeutic and consulting services** to inpatients and outpatients of Na Homolce Hospital. 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 mnemonic abilities or assessment of personality psychopathology that would rule out some medical interventions.

In compliance with the clinical profile of Na Homolce Hospital the department provides **specialised neuropsychological diagnostics and psychotherapeutic care to patients with neurological diseases, specialised psychological diagnostics and psychotherapy care to patients with cardiac and vascular diseases** within internal medicine it offers **psychotherapeutic care to bariatric patients including obesitology consultancy and psychosomatic care, psychotherapeutic care oncology and other patients including consultancy for smoking addiction treatment.**

Additional services include **crisis intervention** in acute reactions to serious diagnoses, **psychodiagnostics and psychotherapy of children** with different psychosomatic, behavioural and study problems or psychological examinations of patients required by the rules and regulations of the Ministry of Health and the General Health Insurance Company. An essential part of the care includes **consultancy for psychosomatic and pain treatment.** In 2013, specialists from the department were involved in undergraduate teaching for the Faculty of Education of Charles University and the Philosophy Faculty of Charles University and in postgraduate teaching for the Institute of Postgraduate Studies in Healthcare, in clinical and transport psychology for the Philosophy Faculty of Palacky University in Olomouc and the Philosophy Faculty of Charles University. ■

Basic data	
Number of psychologists	4

Number of hospitalised interventions	
Psychotherapy individual systematic 30 minutes.	58
Targeted psychological examinations 60 minutes.	486
Control psychological examinations 30 minutes.	216
Specific psychological interventions 30 minutes.	3,599
Crisis intervention 30 minutes.	87
Psychodiagnosis with challenging psychotherapeutic interventions.	22

Number of outpatient interventions	
Psychotherapy individual systematic 30 minutes.	2,673
Specific psychological interventions 30 minutes.	246
Targeted psychological examinations 60 minutes.	819
Control psychological examinations 30 minutes.	65
Crisis interventions 30 minutes.	128
Conversations of clinical psychologist with family 30 minutes.	6
Telephone consultation 10 minutes.	16
Psychodiagnosis with challenging psychotherapeutic interventions 90 minutes.	118
Group therapy 90 minutes.	12

# Summary of Activities of Clinical Programmes

## OUTPATIENTS' DEPARTMENTS

### DEPARTMENT OF PHYSIOTHERAPY AND PHYSICAL MEDICINE

*Head of Department Ivan Hadraba, MD*

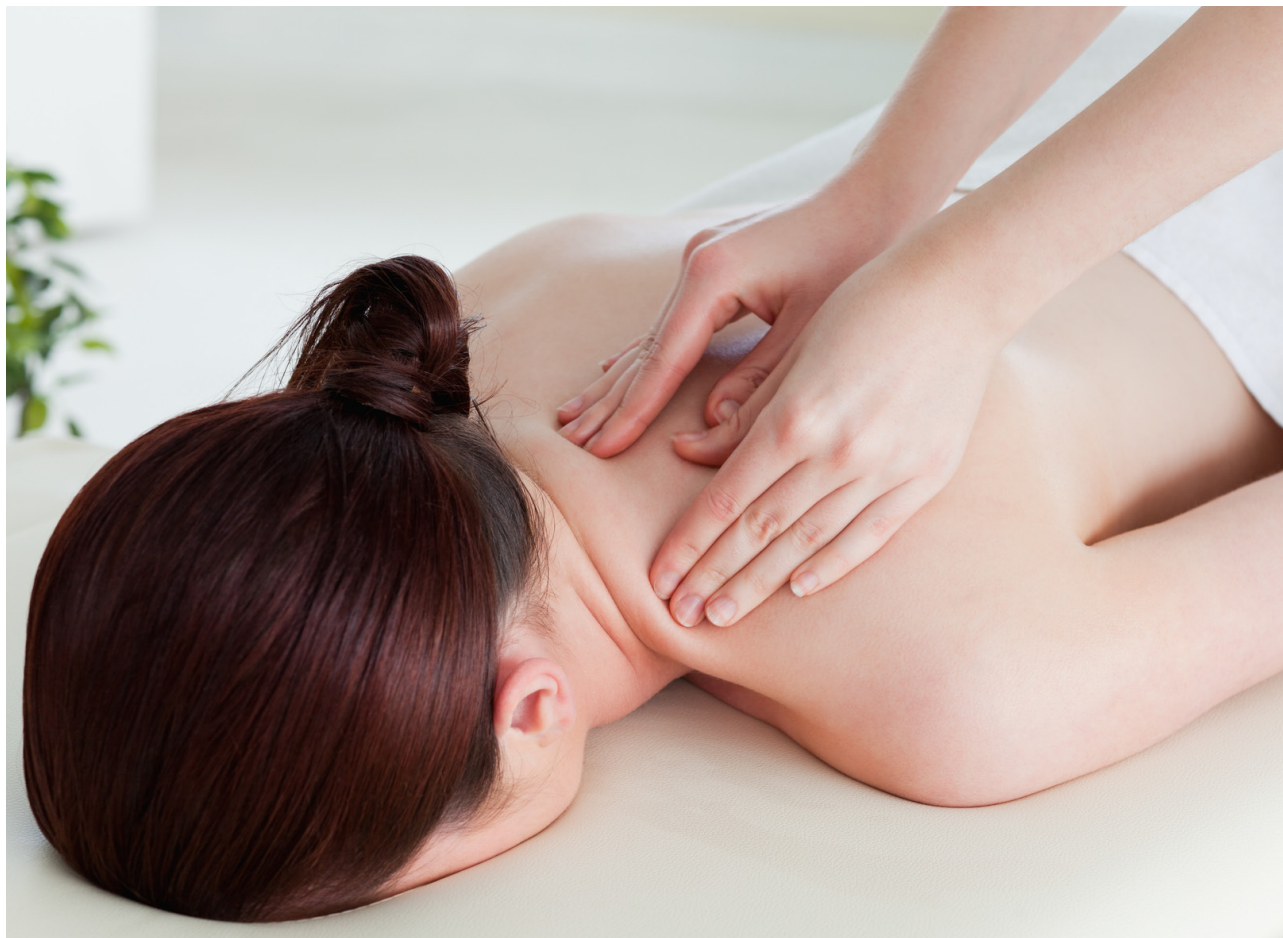
The department provides comprehensive diagnostics and therapeutic care to restore physical abilities of patients. Diagnostic and therapeutic services are an essential part of the clinical programmes in Na Homolce Hospital, i.e. the neuro-programme, the cardiovascular programme and the general medical care programme. The care is carried out by a team of specialised doctors, physiotherapists, nurses and masseurs both to patients in the hospital and to those referred from other medical facilities.

The range of services includes the **diagnosis and treatment of functional disorders of the locomotory system, post-traumatic care and operations on the locomotory system, preoperative and postoperative care in spondylosurgery, care after vascular surgery, orthopaedic-prosthetic care, and rehabilitation treatment for incontinence in men and women and treatment by computer kinesiology**. Traditional procedures include physiotherapy, hydrotherapy, electrotherapy, massage, lymphatic massage, peat wraps and gas injections.

The department continued collaborating with the Department of Neurosurgery in 2013 specialising in a **treatment programme for patients with vertebrogenic problems**, not indicated for acute surgical solutions. ■

#### Basic data

Number of doctors	4
Number of physiotherapists	28
Number of general nursing staff	4
Number of outpatient examinations	40,942
Number of therapeutic procedures	232,207



# Summary of Activities of Clinical Programmes

## SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

### DEPARTMENT OF RADIOIAGNOSTICS

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

In 2013, 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 radio-diagnostic technology to its fullest extent, with special emphasis on diseases of the nervous, locomotory and cardiovascular systems, as well as on vascular and non-vascular interventions.

The department continued performing **vascular methods** last year and together with the Vascular and Cardiosurgery Department, implanted stents in aneurysms of the abdominal and thoracic aorta and pelvic vascular system. Na Homolce Hospital is still in the top position in the Czech Republic for the number of these implants carried out. 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. The department continued implementing new types of remodelling stents and with a thicker weave that make it easier to induce aneurysm thrombosis and remove it from the circulation. A new, two-component adhesive has been used on a regular basis that enables treatment of intracranial arteriovenous malformation in the area of the spinal canal.

In addition to using intra-arterial thrombolysis, the revascularisation treatment of acute ischemic CMP 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. In 2013, the re-channelling methods continued to be used where a special fully-retractable stent was used for cerebral arteries to enable the withdrawal of a thrombus from the vascular arteries. Na Homolce Hospital is one

of ten accredited comprehensive cerebrovascular centres where CT, MR and endovascular interventions are available round-the-clock.

Doctors in the Department of Radiodiagnostics continued with CMP treatment based on the occlusion of the deep venous system and sinuses by the method of ultra-selective catheterisation directly to the deep and cerebral veins followed by local thrombolysis and re-canalisation of the deep veins and sinuses. They were the first in the world, in 2012, to implement this treatment. The double-projection angiograph, Axiom Artis, 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 year 2013 saw a further increase in the number of percutaneous, vertebroplastic and kyfoplastic **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 kyfoplasty, i.e. – the insertion of a stent into the vertebral body, is being carried out. The department has been using the latest dual-source CT Siemens Somatom Flash, which is ranked as one of the most modern technologies in the world today and has considerably improved the potential of diagnostic CT. The device was retrofitted with the interactive reconstruction system (SAPHIRE) in 2012 which enables the exposure to radiation during CT examinations to be reduced considerably. There was an increase in the number of CT examinations of the heart, including CT coronarography with much

Basic data	
Number of doctors	27
Number of laboratory technicians	31
Number of general nursing staff	9

Specialised therapeutic interventions	
PTA (with or without stent implantation)	356
Endovascular treatment of cerebral aneurysms	30
Recanalization of cerebral arteries with acute CMP	26
Local thrombolytic and PTA/stent of extracranial arteries	16
Local thrombolytic and PTA/stent of intracranial arteries	18
Embolization in neuronal area (AVM cerebral, spinal)	22
CT guided interventions	2,592
- of which targeted nerve root and facet joint injections	2,137
Vertebroplastic + kyfoplastic	181
Radiofrequency ablations	14
CT guided biopsies and drainages	110
Breast node biopsies	150



# Summary of Activities of Clinical Programmes

## SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

higher image quality and with considerably lower exposure of patients to radiation. CT perfusion examination of the whole brain has been carried out on a regular basis in acute ictuses.

Examination by **intraoperative magnetic resonance imaging (IMRI)** has been performed on a regular basis using equipment installed in the operating theatre for Neurosurgery. The number of perioperative magnetic resonance imaging examinations continued to grow in 2013. The device is also used for regular magnetic resonance imaging when it is not in use by the operating theatres, which has enabled the waiting time to be reduced and increased 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 tractography of white matter. Functional MRI Bold imaging for neuronavigation and deep brain stimulation has been further developed.

The programme of MRI heart examination has been extended further with the added possibilities of imaging and quantifying blood flow, which is mainly important for valvular and short-circuit defects of the heart. The total

number of CR and MRI examinations of congenital heart defects increased in 2013.

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), was used routinely in 2013.

Last year the Radiodiagnostics Department was equipped with a new, more powerful MRI device with a magnetic pole power of 3 Tesla (MR 3T).

The **Mammography clinic** belongs to a network of accredited clinics and is equipped with a Planmed Nuance Excel with direct digitisation. The Mammography Clinic in Na Homolce Hospital was again ranked among the five best clinics out of the 60 centres in the Czech Republic that were assessed in 2013 for the quality of their mammography screening.

All radiosopic image documentation is digitally saved in the hospital's information system and is available to doctors around the entire hospital. All operations of the Department of Radiodiagnostics are fully digitalised, i.e. no films are used. The department has been using electronic request forms for all types of examinations on a regular basis and external request forms are also being transferred to electronic format.

The Department of Radiodiagnostics was involved in two grant projects in 2013. ■

### Overview of selected radiodiagnostic examinations

Computer tomography	10,964
Magnetic resonance	10,968
Angiography	3,709
Ultrasound examinations	14,762
Mammography	14,126
- of which screening	12,455
Total number of radiodiagnostic examinations	99,232

# Summary of Activities of Clinical Programmes

## SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

### DEPARTMENT OF NUCLEAR MEDICINE/PET CENTRE

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

The services of the centre include **scintigraphic functional imaging**, including the **PET/CT** method (a combination of positron emission and computer tomography), which is mainly used to diagnose oncological, neurological and cardiovascular diseases. The services also include **immuno-analytical laboratory examination methods**, such as radiosaturation analyses (RSA) and chemiluminescence.

The Department of Nuclear Medicine/PET Centre continued to serve both the patients of Na Homolce Hospital, as well as patients from other healthcare facilities in the Czech Republic (primarily PET/CT examinations) in 2013. **The number of PET interventions/examinations** reached 7,094 in 2013, which represents a 0.2% increase compared to 2012. All the examinations were carried out in two hybrid PET/CT Siemens Biograph scanners. Throughout 2013 the department succeeded in maintaining a high standard of productivity compared with other European facilities.

**Scintigraphic diagnostics**, including SPECT, came to a slight increase in clients interested in scintigraphic examinations but due to internal technical reasons, the total number of scintigraphic examinations in 2013 was lower than in 2012.

**The immunoanalytical laboratory** experienced a 5% drop in the number of assays carried out compared with 2012 which was caused by a number of internal and external factors, including the implementation of new regulations in healthcare insurance.

The Department of Nuclear Medicine/PET Centre is an ISO 9001:2008 certificate holder that was awarded based on a certification audit carried out by the Det Norske Veritas auditors.

The doctors of the department carried out consultancy and specialist work for the IAEA, in Vienna. The department was involved in one grant project in 2013. ■

Basic data	
Number of doctors	9
Specialist in laboratory methods and in preparation of medical products	2
Radiological assistants	6
Pharmaceutical assistants	2
Number of general nursing staff	6
Laboratory technicians	4

Number of interventions/examinations	
Scintigraphy	
Number of examinations	786
Positron emission tomography	
Number of examinations	7,094
Laboratory examination methods	
Number of interventions	136,608
Number of assays	104,591

# Summary of Activities of Clinical Programmes

## SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

### DEPARTMENT OF CLINICAL BIOCHEMISTRY, HEMATOLOGY AND IMMUNOLOGY

*Head of Department Luděk Táborský, MD*

**Clinical Biochemistry** provides routine biochemical services for inpatients and outpatients in Na Homolce Hospital concentrating on diagnostics and the treatment of critically ill patients admitted to the hospital. Bedside examination (POCT – point of care testing) of pH balance, selected minerals and glycaemia are carried out for inpatients in critical conditions. Analyses of minerals, enzyme activity, substrate concentrations, cardio-marker levels, amino acids, selected prohormones, vitamins, the full range of lipids, drugs and their metabolites, including pharmacokinetic analysis of concentrations measured, are made for all patients. Clinical biochemistry provided traditional services to general practitioners, paediatricians and other specialists in the field in 2013. The department continued in expanding services offered in order to increase and improved quality of services for the Clinical Department. An essential activity of the biochemistry centre is the **diagnosis of lipid metabolism disorders**. Last year, the **Club for parents and children with lipid disorders** continued to lay on educational events as well as provide metabolic counselling on rehabilitation and reconditioning to its members.

**The Haematology Laboratory** provides routine services to the clinical units of the hospital and carries out special coagulation tests including screening for thrombophilia, mainly for departments in the cardiovascular programme. The laboratory launched the monitoring of a new dose of Rivaroxaban (Xarelto). The haematology laboratory is equipped with the haematology unit, Sysmex XE 5000, which carries out the examination of blood count, body fluids, specimen staining and haematological differential analysis.

**The Transfusion Centre** ensures blood supply and blood derivatives for the clinical departments.

**The Immunology Laboratory** carried 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's Department takes care of patients with allergies, immunodeficiency and immunopathological conditions. The latest innovation in outpatient examinations is for patients who suffer from bronchial asthma. The examinations are carried out using a non-invasive method where the patient's exhalatory function is tested for bronchial hyperactivity.

**The Laboratory of Molecular Diagnostics** uses molecular genetics to diagnose hereditary diseases and predisposition to common and serious diseases. It mainly responds to the requirements of individual departments within the hospital. The Laboratory developed a test for the pharmacogenetics of Diabigatran (Pradaxa) in 2013 and have extended this to assays for Clopidogrel efficacy genotyping based on polymorphism CYP2C19\*.

The Department of Clinical Biochemistry, Haematology and Immunology have been included in the System of External Quality in the Czech Republic (SEKK), Germany (INSTAND), Netherlands (SKZL) and Great Britain (NEQAS). The department continued to be successfully accredited in accordance with ČSN EN ISO 15189:2007 with an expanding range of methods in 2013. Doctors from the department were involved in undergraduate teaching for the 2<sup>nd</sup> Faculty of Medicine of Charles University and postgraduate teaching within the Institute of Postgraduate Studies in Healthcare in 2013.

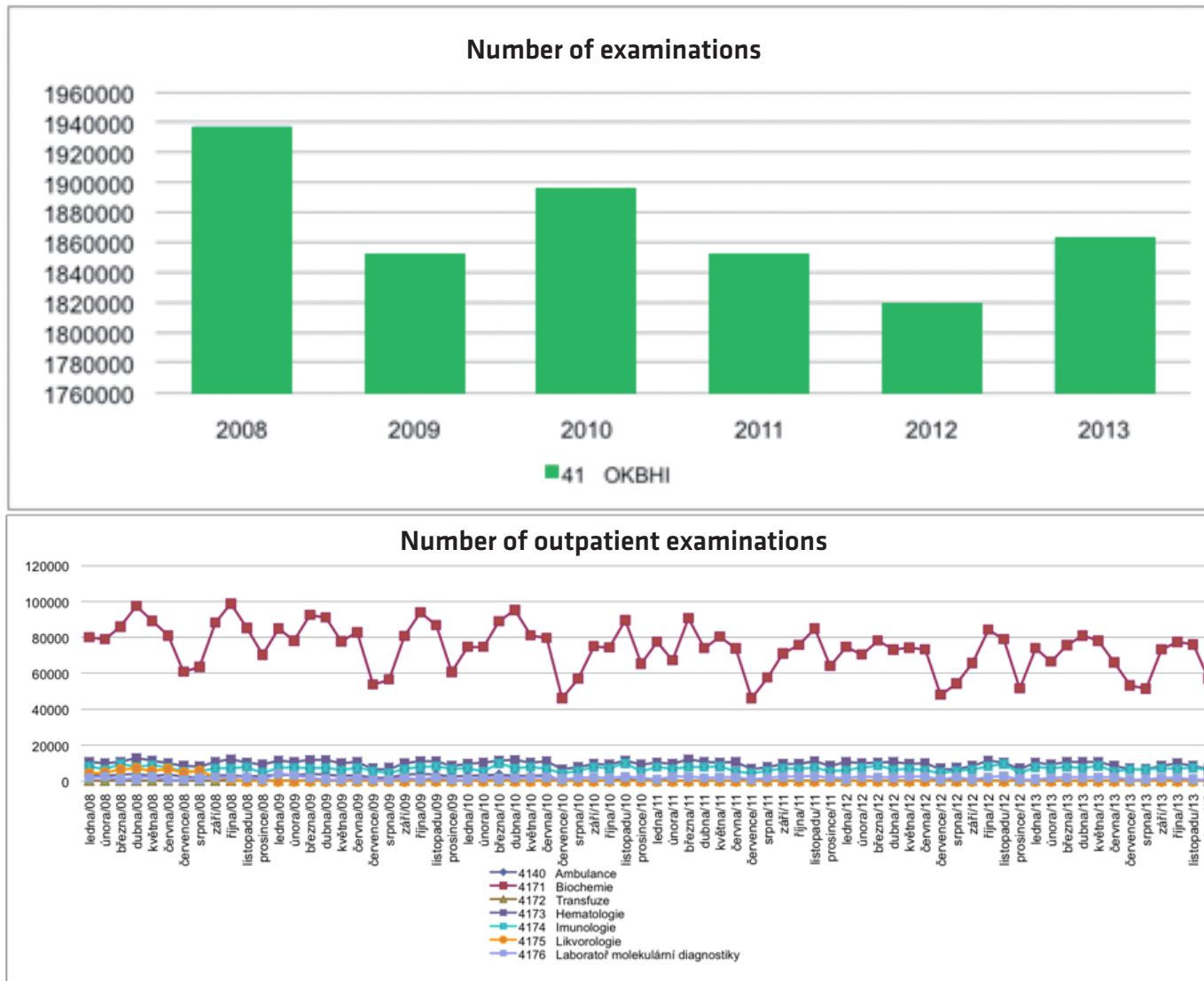
The Department of Clinical Biochemistry, Haematology and Immunology took part in 1 grant project in 2013. ■

Basic data	
Number of doctors	9
Number of medical and non-medical staff/undergraduates /VŠ/	6
Number of nurses and paramedical staff	34



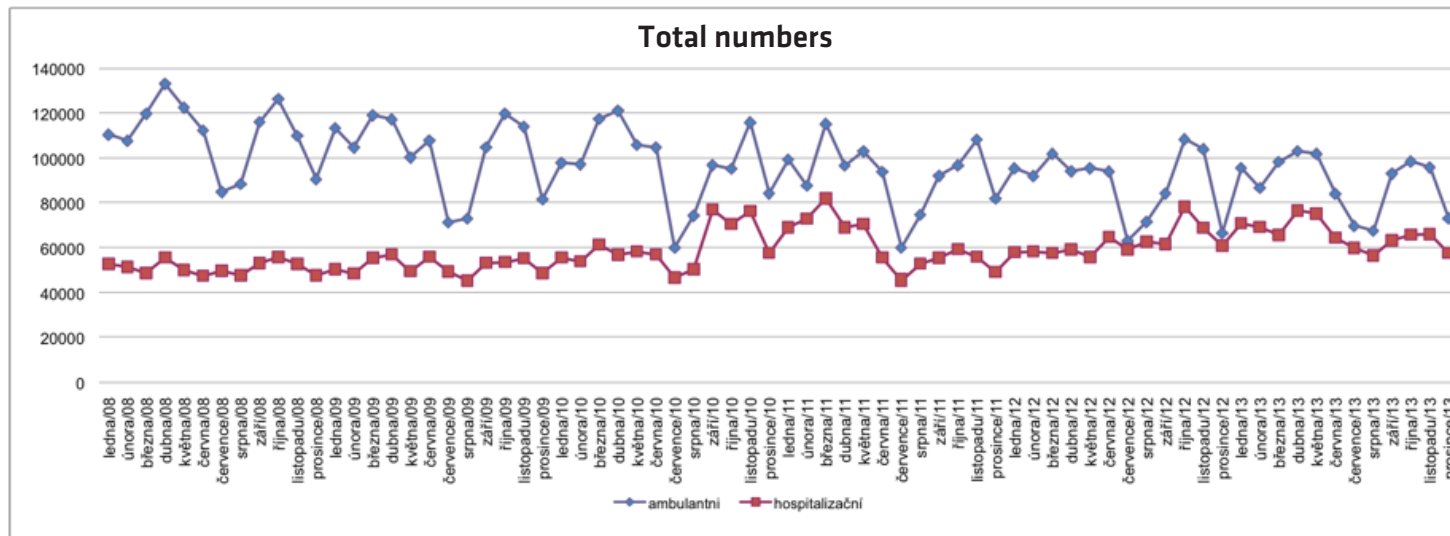
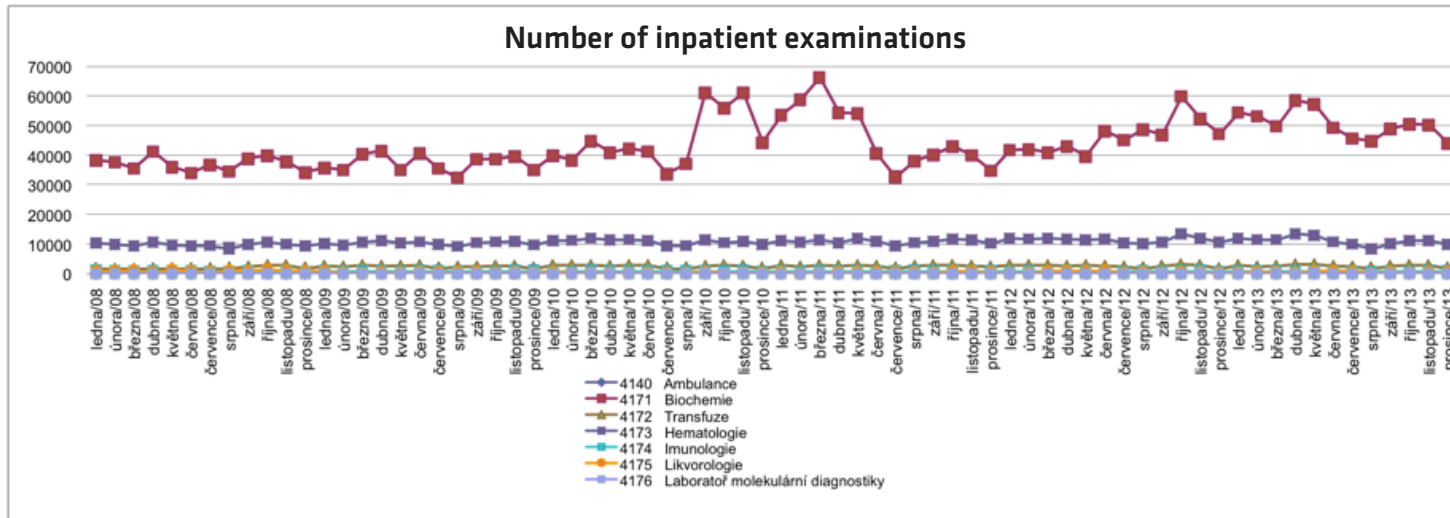
# Summary of Activities of Clinical Programmes

## SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES



# Summary of Activities of Clinical Programmes

## SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES



# Summary of Activities of Clinical Programmes

## SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

### DEPARTMENT OF CLINICAL MICROBIOLOGY AND ANTIBIOTIC CENTRE

*Head of Department Vlastimil Jindrák, MD*

The Department of Clinical Microbiology is involved in the **laboratory diagnosis of community and nosocomial infectious diseases and complications** in hospitalised patients and advises on their diagnosis, treatment and prevention. Consultants in the department regularly take part in interdisciplinary work with a team of specialists to provide optimum care to inpatients and outpatients. The diagnostic laboratory service has been traditionally provided both to Na Homolce Hospital and to general practitioners and specialists at large.

There was a stable demand for **laboratory microbiology** examinations in 2013.

An essential part of the department's work is that of the **Antibiotic Centre**, which is involved not only in the implementation of the antibiotic policy in Na Homolce Hospital but also for outside outpatients' practices. Na Homolce Hospital is a clinical workplace with one of the lowest occurrences of the main multi resistant strains responsible for infections connected with healthcare in the Czech Republic (according to EARS-Net European Surveillance Data). The number of consultations carried out in 2013 reached an historic high with more than 3,000 consulting patients and more than 10,000 consultations.

Basic data	
Number of doctors	4
Number of medical and non-medical staff / undergraduates	1
Number of laboratory technicians	15

#### 1/ CLIENTELE

- a) Na Homolce Hospital  
b) External clientele

**Chart 1: Number of healthcare facilities and practices**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Number of facilities	193	180	178	218	187	185	217	177	163	141	132	107	101	103	95

#### 2/ LABORATORY DIAGNOSTICS

- a) Examinations for Na Homolce Hospital

**Chart 2: Orders from Na Homolce Hospital for microbiology examinations**

Year	Bacteriology	Serology	Total
1999	36,020	10,964	46,984
2000	35,251	11,330	46,906
2001	39,018	12,157	51,175
2002	41,473	14,282	55,755
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

- b) Examinations for clientele of external practices

**Chart 3: Orders to Na Homolce Hospital for microbiology examinations**

Year	Bacteriology	Serology	Total	Number of practices
1999	47,587	9,628	57,215	193
2000	44,809	8,727	53,722	180
2001	47,387	8,343	55,730	178
2002	48,985	9,380	58,355	218
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

# Summary of Activities of Clinical Programmes

## SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

The Department of Infection Control plays an essential role in the prevention of infections **and infection control**. The occurrence of nosocomial infections of the bloodstream was stable in 2013, the same the number of patients carrying or infected by MRSA. There was a slight increase in infections caused by *Clostridium difficile*. The department continued its collaboration with the National Contact Point in the Czech Republic for infections connected to healthcare at the National Health Institute.

The **external professional activities** of the Head of Department continued within the ECDC (European Centre for Disease Prevention and Control) in connection with the management of the National Contact Point for the ICU component of the European surveillance of infections connected with healthcare in the Czech Republic. ■

### c) Total microbiology examinations

Chart 4: Total orders of microbiology examinations

Year	Bacteriology	Serology	Total
1999	83,607	20,592	104,199
2000	80,100	20,084	100,695
2001	86,405	20,500	106,905
2002	90,458	23,652	114,110
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

### 3/ ANTIBIOTIC CENTRE

#### Consultations given by doctors of the Antibiotic Centre

Chart 5: Consultations for inpatient care in Na Homolce Hospital

Year	Number of consultations	Consulted patients (total number)
1997	3,783	922
1998	3,635	801
1999	4,370	967
2000	4,287	905
2001	5,069	1,024
2002	6,076	1,266
2003	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



# Summary of Activities of Clinical Programmes

## SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

### DEPARTMENT OF PATHOLOGY

**Head of Department Martin Syrůček, MD**

The department carries out all bioptical 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 even to external doctors and healthcare facilities in Prague. In addition, the department is in charge of necrotic activities (post-mortems) including organisational services. The department organises clinical-pathology seminars with analysis of selected necrotic and biotic cases for individual clinical departments in order to raise the quality of medical care provided.

**Biotic diagnostics** is one of the most important activities of the department. Apart from general diagnostic biopsies, highly specialised biotic diagnostics are carried out focused on tumour diseases of the central nervous system. The department carries out urgent intraoperative examinations and further procedures for the Department of Surgery and the scope of operations are adjusted according to these results. Demanding intraoperative biotic examinations are carried out including comprehensive special methods mainly immunohistochemical examinations that help to increase the accuracy of biotic diagnoses and to aid the detection of selected tumour markers.

**Cytological diagnostics** are mainly focused on gynaecological problems. Non-gynaecological cytology is used in examinations of aspirates or smears from all tissues, including the brain.

**Necroptic diagnostics** mainly concerns autopsies and the histological processing of tissues of the deceased. The information acquired is important for identifying the immediate cause of death and helps to obtain more

information about the nature and diagnostics of individual diseases.

The Department of Pathology is registered under the system of external quality control in the Czech Republic (SEKK). In 2013, the department successfully passed a ČIA re-accreditation audit and met the requirements of standard DIN EN ISO 15189:2007.

The Department of Pathology was involved in 2 grant projects in 2013. ■

#### Basic data

Number of doctors	5
Number of laboratory technicians	7
Quality Manager	1

#### Bioptic diagnostics

Year	Number of examinations	Number of specimens
2005	19,546	49,290
2006	19,730	47,866
2007	21,769	51,846
2008	22,269	56,390
2009	21,831	58,429
2010	23,256	63,915
2011	22,670	61,631
2012	22,848	70,035
2013	21,643	65,890

#### Cytological diagnostics

Year	Number of examinations	Number of specimens
2005	5,349	11,744
2006	5,495	11,643
2007	6,813	14,082
2008	2,525	5,590
2009	2,738	6,214
2010	2,178	4,731
2011	2,153	5,092
2012	2,205	4,932
2013	2,139	4,629

#### Necroptic activity

Year	Number of deceased in the hospital	Number of autopsies
2005	286	248
2006	261	199
2007	273	193
2008	240	131
2009	270	154
2010	241	143
2011	226	136
2012	216	122
2013	234	138



# Summary of Activities of Clinical Programmes

## SUMMARY OF ACTIVITIES OF DEPARTMENTS PROVIDING COMPLEMENTARY SERVICES

### DEPARTMENT OF BIOMEDICAL ENGINEERING

*Head of Department: Ing. Martin Mayer (until 6. 6. 2013)*

*Head of Department: Ing. Ladislav Škarda (from 7. 6. 2013)*

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. preventive – service and metrology section.

**The Preventative Service 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 anaesthesia 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 current metrological legislation Law No. 505/1990 Coll. about metrology as amended and related to metrology legislation. 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, me-

trology 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 determined measuring instruments of temperature, weight and eye monometers. The Authorised Metrology Centre K 92 is an essential part of the Metrology Section which provides official verification of the determined measuring instruments for the indirect measurement of pressure – monometers within the regulations of the Office for Standards, Metrology and Testing, 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 1<sup>st</sup> Faculty of Medicine of Charles University in 2013.

The Department of Biomedical Engineering in Na Homolce Hospital is the co-researcher of IGA MZ ČR (NT/14473) grant in 2013. Together with the main researcher, FBMI ČVUT, it is trying to devise effective checks on purchases in the healthcare facilities. ■

### MÁNES SPA-RESORT, Karlovy Vary

*Manager of Spa-Resort Ing. Jan Řezáč (until 9. 4. 2013)*

*Manager of Spa-Resort Alena Pelikánová (from 10. 4. 2013)*

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 beneficial spa treatment for adults and children with diseases of the digestive tract and for metabolic and glandular disorders** (diseases of the liver, gallbladder and biliary tract, stomach, intestinal diseases, diabetes and obesity).

The service also includes stays for relaxation and recuperation as well as specialised treatment programmes. Comprehensive and beneficial care is not only offered to clients of health insurance companies but also to domestic and foreign private patients. ■



# Patient Clubs

## Club for parents and children who suffer from lipid disorders

This club was established by the Metabolic Disorders Clinic in Na Homolce Hospital as far back as 1995. It brings together families whose children suffer from hereditary disorders of lipid metabolism, so called hypercholesterolemia. Patients with this disorder have an increased cholesterol level in the blood that gives rise to a high risk of cardiovascular diseases. The basic treatment for these children involves a controlled low-calorie diet and with the most serious cases treatment for hypertension. The club is integrated into the Association to help chronically ill children. The Club is entirely run by medical volunteers and parents. Parents, doctors and dietary nurses work closely together to develop appropriate eating habits in high-risk families, to provide information about healthy nutrition and suitable food products and also on new discoveries in the treatment of hypercholesterolemia. The Club's traditional and popular activities include publication of the club's Cholesterol magazine, organised water therapy exercises in Na Homolce Hospital's swimming pool, one-day or weekend trips and primarily summer fitness camps focused on a low cholesterol diet and movement activities. Last year children and parents spent one week at a fitness camp in Sedlácký Dvůr in Vysočina. The Club for parents of Children who suffer from lipid disorders plays an important role in preventing cardiovascular diseases by encouraging healthy nutrition, healthy habits and increased physical activities.

### Contact details:

#### Club for parents of children who suffer from lipid disorders

Clinic for Metabolic Disorders  
Na Homolce Hospital  
Roentgenova 2, 150 30 Praha 5

Tel.: (+420) 257 273 229

E-mail: jana.privarova@homolka.cz

## AA Club Homolka

AA Club Homolka was established by the Department of Paediatric Allergy and Clinical Immunology in Na Homolce Hospital in 1998. It brings together families whose children suffer from allergies and asthma. The families who belong to this club not only include patients treated in Na Homolce Hospital but also other facilities both from within and outside Prague. The activities of the Club are diverse, ranging from gathering and spreading information about individual allergic diseases, organising special discussions for parents, publishing the club magazine Motýlek (Butterfly) with children's contributions and organising entertainment and educational activities for young patients. The most popular club event is an annual two-week trip to the seaside for children with allergies where they are accompanied by medical professionals. It is meant for school children who suffer with atopic eczema, bronchial asthma, allergic rhinitis, immune disorders or repeated respiratory infections. Last year the children spent their therapeutic holiday in Greece. AA Club Homolka is a member of the Association for the assistance of chronically sick children.

### Contact details:

#### AA Club Homolka

Department of Paediatric Allergy  
and Immunology  
Na Homolce Hospital  
Roentgenova 2, 150 30 Praha 5

Tel.: (+420) 257 272 017

E-mail: jaroslava.simonickova@homolka.cz



# Grants Under Way in Na Homolce Hospital in 2013

## Grant National Institute of Health, USA

**Name:**

International Multicentre Study Freedom (Future Revascularisation Patients with Diabetes mellitus: Optimal Management of Multivessel Disease).

**Period:** 2007 – 2015

**Researchers:**

Mount Sinai School of Medicine, New York, USA  
120 medical centres in the USA, 50 outside the USA

**Co-researchers from Na Homolce Hospital:**

Ass. Prof. MUDr. Petr Neužil, MD, PhD, FESC, Head of Cardiology Department in Na Homolce Hospital  
Petr Kmoníček MD, Cardiology Department in Na Homolce Hospital

## Programme of Ministry of Education, Youth and Sports CONTACT II. - LH12054

**Name:**

Validation studies to verify the effectiveness of the application of highly focused ultrasound (HIFU) to perform extracorporeal renal sympathetic denervation in patients with resistant arterial hypertension.

**Period:** 2012 – 2015

**Researcher:**

Ass. Prof. Petr Neužil, MD, PhD, FESC, Head of Cardiology Department in Na Homolce Hospital

## Grant NT12153-5/2011

**Name:**

Involvement of oxidative stress-controlled endovascular therapeutic hypothermia in patients after cardiac arrest.

**Period:** 2011 – 2015

**Researcher:**

Doc. Petr Ošťádal, MD, PhD, Department of Cardiology in Na Homolce Hospital

## Grant NT12237-5/2011

**Name:**

Diagnostic and therapeutic potential of fibroblast activation protein (FAP) in human astrocytic tumours.

**Period:** 2011 – 2015

**Researcher:**

Prof. Aleksi Šedo, MD, DSc, 1. LF UK, Prague

**Co-researchers for Na Homolce Hospital:**

Robert Tomáš, MD, PhD, Department of Neurosurgery in Na Homolce Hospital

## Grant NT 12094-5/2011

**Name:**

Multidisciplinary approach in the diagnosis of frontotemporal lobar degeneration and tauopathies: a comprehensive view of the pathogenetic mechanisms.

**Period:** 2011 – 2015

**Researcher:**

Radoslav Matěj, MD, PhD, FTN Praha

**Co-researchers for Na Homolce Hospital:**

Prof. Josef Vymazal, MD, DSc, Department of Radiodiagnostics in Na Homolce Hospital

## Grant NT 11328-4/2010

**Name:**

Trigeminal Neuralgia in experimental MR imaging: effects of treatment for trigeminal neuralgia.

**Period:** 2010 – 2013

**Researcher:**

Dušan Urgošík, MD, PhD, Department of Stereotactic and Radiation Neurosurgery in Na Homolce Hospital

**Co-researcher:**

Central Military Hospital

## Grant NT 12331-5/2011

**Name:**

Early evaluation of the effectiveness of neoadjuvant chemotherapy for cancer of the oesophagus and oesophageal junction with FDG-PET/CT examination.

**Period:** 2011 – 2015

**Researcher:**

Tomáš Haruštiak, MD, FN Motol, Prague

**Co-researcher for Na Homolce Hospital:**

Pavel Fencel, MD, PhD, Department of Nuclear Medicine / PET Centre Na Homolce Hospital.

## Grant MZ – IGA NT14473-2/2013

**Name:**

Information system to monitor acquisition of healthcare devices

**Period:** 2013 – 2014

**Researcher:**

Prof. Ing. Peter Kneppo, DrSc, Czech Technical University in Prague

**Co-researcher for Na Homolce Hospital:**

Ing. David Macků, MD, Department of Biomedicine Engineering

# Publications in 2013

## Works on which the staff in Na Homolce Hospital were involved

### FOREIGN

#### MONOGRAPHS

##### **LIŠČÁK, R. Gamma knife radiosurgery.**

1<sup>st</sup> issue New York: Nova Science Publishers, 2013. 326 s. ISBN 978-1-62618-110-6.

#### CHAPTERS FROM BOOKS

##### **CHYTKA, T. Craniopharyngiomas. In Gamma Knife Radiosurgery.**

New York: Nova Science Publishers, 2013, s. 199-205. ISBN 978-1-62618-110-6.

##### **CHYTKA, T. Chordoma and Chondrosarcoma of the Cranial Base. In Gamma Knife Radiosurgery.**

New York: Nova Science Publishers, 2013, s. 207-213. ISBN 978-1-62618-110-6.

##### **KOŘÁN, M. The Psychological Care in Patients treated with Gamma Knife. In Gamma Knife Radiosurgery.**

New York: Nova Science Publishers, 2013, s. 123-128. ISBN 978-1-62618-110-6.

##### **LIŠČÁK, R. Radiosurgery of brain cavernomas - long-term results. In Gamma knife radiosurgery for brain vascular malformations.**

New York: Karger, 2013, s. 147-156. ISBN 978-3-8055-9619-0.

##### **NOVOTNÝ, J. Physics of Gamma Knife Radiosurgery. In Gamma Knife Radiosurgery.**

New York: Nova Science Publishers, Inc., 2013, s. 13-23. ISBN 978-1-62618-110-6.

##### **NOVOTNÝ, J. Technology of Gamma Knife Radiosurgery and Treatment Process. In Gamma Knife Radiosurgery.**

New York: Nova Science Publishers, Inc., 2013, s. 25-41. ISBN 978-1-62618-110-6.

##### **NOVOTNÝ, J. Calibration and Quality Assurance of Leksell Gamma Knife Radiosurgery. In Gamma Knife Radiosurgery.**

New York: Nova Science Publishers, Inc., 2013, s. 43-71. ISBN 978-1-62618-110-6.

##### **NOVOTNÝ, J. - LIŠČÁK, R. Standardized Treatment and Operating Procedures for Leksell Gamma Knife Radiosurgery. In Gamma Knife Radiosurgery.**

New York: Nova Science Publishers, Inc., 2013, s. 73-81. ISBN 978-1-62618-110-6.

##### **ŠIMONOVÁ, G. - NOVOTNÝ, J. Hypofractionation using Gamma Knife. In Gamma Knife Radiosurgery.**

New York: Nova Science Publishers, Inc., 2013, s. 113-121. ISBN 978-1-62618-110-6.

##### **ŠIMONOVÁ, G. Radiobiology. In Gamma Knife Radiosurgery.**

New York: Nova Science Publishers, Inc., 2013, s. 93-112. ISBN 978-1-62618-110-6.

##### **ŠIMONOVÁ, G. Brain Metastases. In Gamma Knife Radiosurgery.**

New York: Nova Science Publishers, Inc., 2013, s. 215-235. ISBN 978-1-62618-110-6.

#### ARTICLES FROM IMPACT FACTOR JOURNALS

##### **AL-HITI, H. - CHOVANEC, M. - MELENOVSKÝ, V. et al. L-arginine in combination with sildenafil potentiates the attenuation of hypoxic pulmonary hypertension in rats.**

Physiol Res, 2013, vol. 62, no. 6, s. 589-595.

##### **DOBIÁŠ, M. - MICHÁLEK, P. - NEUŽIL, P. - OŠŤÁDAL, P. Percutaneous radiofrequency left cardiac sympathetic**

##### **denervation for refractory ventricular arrhythmogenic storms: a report of three cases..**

Minerva Anesthesiologica, 2013, vol. 79, no. 8, s. 967-968. ISSN 0375-9393.

##### **DUKKIPATI, S. R. - HUCK, K. H. - NEUŽIL, P. - WOOLLETT, I. Pulmonary vein isolation using a visually guided laser balloon catheter: the first 200-patient multicenter clinical experience.**

Circulation.Arrhythmia and Electrophysiology, 2013, vol. 6, no. 3, s. 467-472. ISSN 1941-3149.

##### **KUDLIČKA, J. - MLČEK, M. - HÁLA, P. - LACKO, S. et al. Pig model of pulmonary embolism: where is the hemodynamic break point?**

Physiol Res, 2013, vol. 62, no. Suppl. 1, s. S173-S179.

##### **LIŠČÁK, R. - JEŽKOVÁ, J. - MAREK, J. Stereotactic radiosurgery of pituitary adenomas.**

Neurosurgery Clinics of North America, 2013, vol. 24, no. October, s. 509-519. ISSN 1042-3680.

##### **LIŠČÁK, R. - URGOŠÍK, D. - ŠIMONOVÁ, G. - VYMAZAL, J. - ŠEMNICKÁ, J. Gamma knife radiosurgery of brain cavernomas.**

Acta Neurochir (Wien), 2013, vol. 116, no. Suppl., s. 107-111. ISSN 0065-1419.

##### **MERKELY, B. - MOLNAR, L. - GELLER, L. - NEUŽIL, P. - ŠKODA, J.**

##### **Chronic implantation of intravascular cardioverter defibrillator in a canine model: device stability, vascular patency, and anchor histology.**

PACE, 2013, vol. 36, no. 10, s. 1251-1258. ISSN 0147-8389.

##### **NEUŽIL, P. - REDDY, V. Y. - KAUTZNER, J. - PETRŮ, J. Electrical reconnection after pulmonary vein isolation is contingent on contact force during initial treatment: results from the EFFICAS I study. Circulation.**

Arrhythmia and Electrophysiology, 2013, vol. 6, no. 2, s. 327-333. ISSN 1941-3149.



# Publications in 2013

**OŠTÁDAL, P. - MLČEK, M. - KRÜGER, A. - HORÁKOVÁ, S. - ŠKABRADOVÁ, M. - HOLÝ, F. - SVOBODA, T. - BĚLOHLÁVEK, J. - HRACHOVINA, V. - TÁBORSKÝ, L. - DUDKOVÁ, V. - PSOTOVÁ, H. - KITTNAR, O. - NEUŽIL, P.**

**Mild therapeutic hypothermia is superior to controlled normothermia for the maintenance of blood pressure and cerebral oxygenation, prevention of organ damage and suppression of oxidative stress after cardiac arrest in a porcine model.**

Journal of Translational Medicine, 2013, vol. 11, no. 124, s. 1-7. ISSN 1479-5876.

**PARENICA, J. - ŠPINAR, J. - VÍTOVEC, J. - WIDIMSKÝ, P. - LINHART, A. - FEDORCO, M. - VÁCLAVÍK, J. - MIKLÍK, R. - FELSOCI, M. - HORÁKOVÁ, K. - CIHALÍK, C. - MÁLEK, F. et al.**

**Long-term survival following acute heart failure: the Acute Heart Failure Database Main registry (AHEAD Main).**

Eur J Intern Med, 2013, vol. 24, no. 2, s. 151-160.

**PIRK, J. - MALÝ, J. - SZARSOZI, O. - URBAN, M. - NEUŽIL, P.**

**Total artificial heart support with two continuous-flow ventricular assist devices in a patient with an infiltrating cardiac sarcoma.**

ASAIO Journal, 2013, vol. 59, no. 2, s. 178-180. ISSN 1058-2916.

**REDDY, V. - MÖBIUS-WINKLER, S. - MILLER, M. A. - NEUŽIL, P.**

**Left atrial appendage closure with the Watchman device in patients with a contraindication for oral anticoagulation: the ASAP study (ASA Plavix Feasibility Study With Watchman Left Atrial Appendage Closure Technology).**

Journal of the American College of Cardiology, 2013, vol. 61, no. 25, s. 2551-2556. ISSN 0735-1097.

**REDDY, V. Y. - DOSHI, S. K. - SIEVERT, H. - BUCHBINDER, M. - NEUŽIL, P.**

**Percutaneous left atrial appendage closure for stroke prophylaxis in patients with atrial fibrillation: 2.3-Year Follow-up of the PROTECT AF (Watchman Left Atrial Appendage System for Embolic Protection in Patients with Atrial Fibrillation) Trial.**

Circulation, 2013, vol. 127, no. 6, s. 720-729. ISSN 0009-7322.

**REMEŠ, F. - TOMÁŠ, R. - JINDRÁK, V. - VANIŠ, V. - ŠETLÍK, M.**

**Intraventricular and lumbar intrathecal administration of antibiotics in postneurosurgical patients with meningitis and/or ventriculitis in a serious clinical state.**

Journal of Neurosurgery, 2013, vol. 119, no. 6, s. 1596-1602. ISSN 0022-3085.

**SYSLOVÁ, K. - BÖHMOVÁ, A. - DEMIRBAG, E. - ŠIMKOVÁ, K. - KUZMA, M. - PELCLOVÁ, D. - SEDLÁK, V. - ČÁP, P.**

**Immunomagnetic molecular probe with UHPLC-MS/MS: A promising way for reliable bronchial asthma diagnostic based on quantification on cysteinyl leukotrienes.**

Journal of Pharmaceutical and Biomedical Analysis, 2013, vol. 81-82, no. 07-08, s. 108-117. ISSN 0731-7085.

**TÁBORSKÝ, M. - ŘÍHOVÁ, D. - MRÁZ, T. - MANDYSOVÁ, E. - VLAŠIHOVÁ, J. - KAMENÍK, L. - NEUŽIL, P. TUGENDHAT:**

**a pilot randomized study on effects of biventricular pacing in patients with bradycardia pacing indication and normal systolic function on heart failure, atrial fibrillation and quality of life (results of 12 month follow-up).**

Bratislavské lékařské listy, 2013, vol. 114, no. 6, s. 323-329. ISSN 0006-9248.

**THORSTENSEN, A. - DALEN, H. - HÁLA, P. - KISS, G. et al.**

**Three-dimensional echocardiography in the evaluation of global and regional function in patients with recent myocardial infarction: a comparison with magnetic resonance imaging.**

Echocardiography, 2013, vol. 30, no. 6, s. 682-692.

**TOMČÍKOVÁ, D. - FELSOCI, M. - ŠPINAR, J. - MIKLÍK, R. - MIKUŠOVÁ, T. - VÍTOVEC, J. - ŠPINAROVÁ, L. - WIDIMSKÝ, P. - LINHART, A. - BĚLOHLÁVEK, J. - FEDORCO, M. - CIHALÍK, C. - MÁLEK, F. et al.**

**Risk of in-hospital mortality identified according to the typology of patients with acute heart failure: classification tree analysis on data from the Acute Heart Failure Database Main registry.**

J Crit Care, 2013, vol. 28, no. 3, s. 250-258.

## OTHER ARTICLES

**BOLDYŠ, J. - DVOŘÁK, J. - SKOPALOVÁ, M. - BĚLOHLÁVEK, O.**

**Monte Carlo simulation of PET images for injection dose optimization.**

International Journal for Numerical Methods in Biomedical Engineering, 2013, vol. 29, no. 9, s. 988-999. ISSN 2040-7939.

**KUDR, M. - KRŠEK, P. - MARUSIC, P. - TOMASEK, M. - TRNKA, J. - MICHALOVA, K. - JARUŠKOVÁ, M. SISCOM and FDG-PET in patients with non-lesional extratemporal epilepsy: correlation with intracranial EEG, histology, and seizure outcome.**

Epileptic Disorders, 2013, vol. 15, no. 1, s. 3-13. ISSN 1294-9361.

**NEUŽIL, P. - ČERNÝ, Š. - KRÁLOVEC, Š. - SVANIDZE, O. Single-site access robot-assisted epicardial mapping with a snake robot: preparation and first clinical experience.**



# Publications in 2013

Journal of Robotic Surgery, 2013, vol. 7, no. 2, s. 103-111.  
ISSN 1863-2483.

**PAPAGIANNITSIS, C. - STUDENTOVÁ, V. - HRABÁK, J. - KUBELE, J. - JINDRÁK, V. - ŽEMLIČKOVÁ, H.**

**Isolation from a nonclinical sample of *Leclercia adecarboxylata* producing a VIM-1 metallo--lactamase.**

Antimicrobial agents and chemotherapy, 2013, vol. 57, no. 6, s. 2896-2897. ISSN 0066-4804.

**SERRANOVÁ, T. - SIEGER, T. - DUŠEK, P. - RŮŽIČKA, F. - URGOŠÍK, D. - RŮŽIČKA, E. - VALLS-SOLÉ, J. - JECH, R.**  
**Sex, food and threat: startling changes after subthalamic stimulation in Parkinson's disease.**

Brain stimulation, 2013, vol. 2013, no. 6, s. 740-745.  
ISSN 1935-861X.

**SIEGER, T. - BONNET, C. - SERRANOVÁ, T. - WILD, J. - NOVÁK, D. - RŮŽIČKA, F. - URGOŠÍK, D. - RŮŽIČKA, E. - GAYMARD, B. - JECH, R.**

**Basal Ganglia Neuronal Activity during Scanning Eye Movements in Parkinson's.**

PLoS ONE, 2013, vol. 2013, no. 8, s. e78581. ISSN 1932-6203.

## DOMESTIC

### MONOGRAPHS

**ČÁP, P. - VONDRA, V.**

**Acute and chronic cough**

1<sup>st</sup> issue Praha: Mladá fronta, 2013. 159 s.  
ISBN 978-80-204-2814-1.

**MÁLEK, F. - MÁLEK, I.**

**Hear failure**

1<sup>st</sup> issue Praha: Nakladatelství Karolinum, 2013. 98 s.  
ISBN 978-80-246-2238-5.

**MÁLEK, F. - BROŽ, J. - HAVRDA, M. - HOLAJ, R. - VRABLÍK, M.**

**Special problems with chronic heart failure**

1<sup>st</sup> issue Praha: Mladá fronta a.s., 2013. 158 s.  
ISBN 978-80-204-2879-0.

**OŠTÁDAL, P. - BĚLOHLÁVEK, J.**

**Extracorporeal membrane oxygenation**

1<sup>st</sup> issue Praha: Maxdorf Jessenius, 2013. 85 s.  
ISBN 978-80-7345-365-7.

**OŠTÁDAL, P. - MATES, M.**

**Acute coronary syndrome**

1<sup>st</sup> issue Praha: Maxdorf Jessenius, 2013. 78 s.  
ISBN 978-80-7345-339-8.

**ŠTÁDLER, P. - DVOŘÁČEK, L. - VITÁSEK, P. - ŠLAIS, M. - ŠEDIVÝ, P.**

**Non-invasive approach in Vascular Surgery**

1<sup>st</sup> issue Praha: Maxdorf-Jessenius, 2013. 200 s.  
ISBN 978-80-7345-296-4.

### CHAPTERS FROM BOOKS

**BENEŠ, P.**

**Chapter 19 "Nutrition of oncology patients" in Current trends in clinical nutrition and intensive metabolic care.**

Praha: Institute of postgraduate studies in, 2013, s. 94-97. ISBN 978-80-87023-22-8.

**ČÁP, P.**

**Kašel. In Gastroesophageal reflux diseases.**

Havlíčkův Brod: Tobiáš s.r.o., 2013, s. 145-151.  
ISBN 978-80-7311-138-0.

**KOŘÁN, M.**

**Assessment of capacity with specific group of drivers in Transport Psychology in Practice.**

Praha: Grada, 2013, s. 78-92. ISBN 978-80-247-4113-0.

**KOŘÁN, M.**

**Transport in the current world in Transport Psychology in Practice.**

Praha: Grada, 2013, s. 10-19. ISBN 978-80-247-4113-0.

**KOŘÁN, M.**

**Selection of drivers and assessment of psychological capacity for driving in Transport Psychology in Practice.**

Praha: Grada, 2013, s. 20-25. ISBN 978-80-247-4113-0.

**KOŘÁN, M. Care for participants in accidents and their relatives in Transport Psychology in Practice.**

Praha: Grada, 2013, s. 39-43. ISBN 978-80-247-4113-0.

# Quality and Safety



One of the main stability goals of Na Homolce Hospital is the long-term quality of the services it provides.



6. Předcházíme možným pádům



1. Správně identifikujeme pacienty



2. Účinně spolu komunikujeme

**H** NEMOCNICE  
NA HOMOLCE

# 100% s bezpečím



akreditované pracoviště JCI



5. Bráníme přenosu infekcí



4. Předcházíme pochybením při operacích



3. Bezpečně podáváme léky

# International accreditation by the 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) accreditation, which is the global benchmark accreditation for healthcare organisations. In June 2005 Na Homolce Hospital successfully passed this accreditation audit for the first time and on the JCI auditors' recommendation, it received the "global badge of quality" – the internationally recognised JCI accreditation, for three years. In June 2011 the second recertification audit took place in Na Homolce Hospital. The hospital defended it yet again successfully with an outstanding result and thus became the hospital with the longest accreditation by international standards in the Czech Republic. Around the whole world, not including the United States, there are more than 360 hospitals accredited by international accreditation standards.

The **Joint Commission International** is a worldwide organisation with a more than one-hundred year tradition of accrediting healthcare facilities. The accredited hospital guarantees safety and quality to the patient by continu-

ously monitoring, analyzing and improving quality indicators in all areas of hospital practice. The JCI accreditation system is based on a package of accreditation standards that comply with 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, 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 accomplish 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; **OKBHI** (Department of Clinical Biochemistry, Haematology and Immunology), **IA** (Immunological Laboratory), **Biotic Laboratory** and Department of Pathology, **KMAS** (Clinical Microbiology and Antibiotic Station) have been awarded the system of quality management in accordance with ISO 15189 of the Czech Institute for Accreditation (ČIA) from 2011 Standard ISO 15189 “Medical laboratories – special

requirements for quality and competence” focuses on the professional management of laboratories such as the passage of investigated samples, 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.





# System quality in Na Homolce Hospital

## 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 radio-pharmaceutical drugs. All services are provided according to an approved policy of quality.

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

## ISO 13485

In 2013, the Department of Central Sterilisation began preparations for certification of its system management in accordance with ISO 13485. This international standard sets requirements for the systems of quality management in such cases where a company needs to establish its ability to provide relevant healthcare devices and services that consistently meet both their 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.



# Departmental safety goals by the Ministry of Health in the Czech Republic

Na Homolce Hospital meets the departmental safety goals given by the Ministry of Health of the CR, which have been obligatory for directly managed organisations since 2011, and their goal is to reduce the most frequent risks associated with the provision of healthcare.

### Departmental safety goals by the Ministry of Health CR:

1. Secure identification of patients
2. Safety with high-risk medications
3. Prevention of mistaken identity, performance and surgical interventions
4. Prevention of patients falling down
5. Implementation of optimal procedures for hand hygiene in healthcare
6. Safe communication
7. Safe handover of patients

The Department of Quality Control carries out regular checks on the compliance of these designated goals and related procedures.

In 2013 we devoted special attention to the safety of patients visiting outpatients' departments and focused on the prevention of falls. We are trying to increase the safety of the environment by active risk finding, such as uneven and slippery floor surfaces. We are also actively trying to identify outpatients who are particularly at risk of falling, such as polymorbid patients, those with mobility problems and so on. We are providing increased care to these patients.

We have created a range of educational activities to increase safety both for personnel and patients.



## 100% s bezpečím



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# Monitoring of patients' satisfaction through patients' eyes in 2013

Na Homolce Hospital takes regularly part in the project "Quality through the patients' eyes". The project measures the quality of healthcare by way of the experience and satisfaction of patients in health facilities across the whole of the Czech Republic.

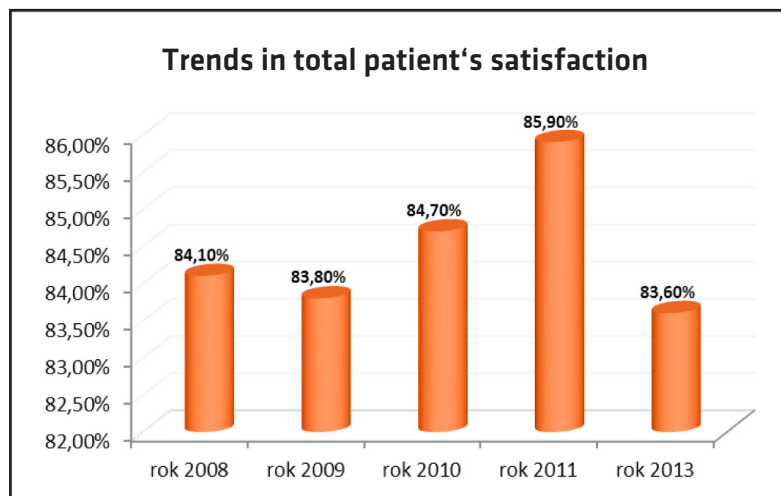
The survey of patient satisfaction, "Quality through the patients eyes in 2013", demonstrated that over the long term the quality of healthcare in Na Homolce Hospital is perceived to be at a high level. The survey took place from 14. 10. to 17. 11. 2013.

**In this questionnaire the patients assessed 50 factors that influence the quality of care. These factors were grouped into 8 areas:**

1. Patient admission to the facility
2. Respect and consideration toward the patient
3. Coordination and integration of the patient's care
4. Information and communication with the patient
5. Physical comfort of the patient
6. Emotional support of the patient
7. Involvement of family and relatives in the patient's treatment
8. Discharge of the patient from the facility

Satisfaction in individual areas has an influence on overall satisfaction.

The overall satisfaction with the hospital came to **83.6%** (in 2011 85.9%). Overall satisfaction fell slightly by 2.3% compared with 2011. **Na Homolce Hospital was ranked fourth** compared with other hospitals in the CR.



#### Best assessed hospitals - „Overall satisfaction“ in 2013

Masarykův onkologický ústav, 13	88.25
Fakultní nemocnice Ostrava, 13	85.05
Ústřední vojenská nemocnice Praha, 13	83.85
Nemocnice Na Homolce, 13	83.60
Nemocnice Znojmo, 13	83.35
Fakultní nemocnice Plzeň, 13	82.40
Krajská nemocnice Liberec, 13	80.90

# Economic Stability



Costs structure

Revenues structure

Total costs and revenues

# Economic Stability

Cost structure by type	
Total	100%
Material	41%
Goods consumption	3%
Energy	2%
Personnel expenses	38%
Depreciations	5%
Others	11%

Total NNH	3,050,753,095	100%
Healthcare section	2,455,889,439	80%
Commercial section	170,223,820	6%
Administration and works section	424,639,836	14%

Revenue structure	
Total	100%
VZP	52%
Other insurance companies	32%
Private patients	1%
Revenues from sale of goods	5%
Other revenues	10%

Number of points per doctor	6,460,160
Number of outpatient points per doctor	2,173,355

Costs	2012	2013
Consumables	1,394,936,568	1,257,597,126
Energy	63,644,937	60,063,102
Goods sold	113,803,309	102,782,640
Repairs, travel expenses, representation and services	208,643,095	196,236,883
Personnel costs	1,183,481,656	1,141,529,105
Depreciation of fixed assets	160,747,031	158,369,535
Financial and other costs	193,773,610	134,174,703
Total costs	3,319,030,207	3,050,753,095

Revenues	2012	2013
Revenues from own products and services	3,021,577,597	2,592,927,021
Revenues from sale of goods	145,602,898	140,222,595
Financial and other revenues	209,681,913	356,029,258
Revenues total	3,376,862,409	3,089,178,873
Profit (loss) for the accounting period	57,832,202	38,425,778

Cost structure by programmes	
Total	100%
Cardiovascular programme	37%
Neuroprogramme	10%
General healthcare programme	15%
Complementary examination service	17%
Commercial healthcare	5%
Economy and management	2%
Technical operations	12%
Outpatients outside the main programme	2%

Total costs and revenues	2013	in mil. CZK
Revenues	3,089,178,873	3,089
Costs	3,050,753,095	3,051
Financial result	38,425,778	38
Material consumption	1,257,597,126	1,258
Personnel costs	1,141,529,105	1,142
Depreciations	158,369,535	158





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