Hungarian Society of Cardiology

- Our main aim is to provide help in reaching others who, either as members of the Society or otherwise, wish to participate in the battle against cardiovascular diseases or in the development of cardiology in Hungary.
About us

- We hold three regular congress each year
- NEXT ANNUAL MEETING OF THE HUNGARIAN SOCIETY OF CARDIOLOGY: 7-10 May, 2008, Balatonfüred, HUNGARY
  - Official languages: Hungarian, English
  - All number of participants: 2557
- 23 Working groups of the Hungarian Society of Cardiology
- We are glad to see that membership, which is an indicator of the development of cardiology in Hungary and the activity of the Society, is increasing each year.
About us

- **Cardiologia Hungarica**: Scientific Journal of the Hungarian Society of Cardiology
- **Traditional yearbook**: to provide insight into the history, structure and functioning of the Society and to introduce the workgroups as well as the regular and honorary members of the society.
Interventional Cardiology in Hungary

Working Group of Interventional Cardiology
Hungarian Society of Cardiology
Working Group of Interventional Cardiology


Dr. B. Merkely (president)
Dr. G. Vajda (vice president)
Dr. Gy. Szabó (secretary)
Dr. I. Horváth (past president)
Dr. D. Apró
Dr. P. Andrassy
Dr. K. Csapó
Dr. G. Lupkovics
Dr. Z. Ruzsa
Dr. I. Ungi

Scientific activities of the WG:

• Congress of interventional Cardiology of Hungary annually.
• 3 postgraduate teaching courses for interventional cardiologists and assistants annually.
We treat...

- Every STEMI within **12 hours**.
- Every STEMI „transport within 90 minutes”* (EU/ACC/AHA)
  - patients **not only from Budapest**
- Every high risk ACS (NSTEMI)

*Our patient population consists significant proportion of elderly patients > 80 y (10.0 %).

* If the time between the first medical contact and the possible PCI is under 90 minutes
The 14 PCI-centers with 24h STEMI/NSTEMI duty in Hungary

1st organized NSTEMI program in Pécs started in 1999
1st organized STEMI program in Zalaegerszeg started in 1999
Organized STEMI program in Budapest started in 2003
AMI cases and 30 days mortality 2000-2005

- 2000: 14089 cases, 20.9% mortality
- 2001: 15064 cases, 20.7% mortality
- 2002: 15414 cases, 20.1% mortality
- 2003: 15448 cases, 20.9% mortality
- 2004: 16591 cases, 18.9% mortality
- 2005: 16296 cases, 19.2% mortality
Type of revascularisations in MI 2000-2005

- 2000: 27.2%
- 2001: 3.5%
- 2002: 1.1%
- 2003: 9.0%
- 2004: 3.0%
- 2005: 33.5%
Proportion of pPCI: age and gender, 2000-2004

![Bar chart showing the proportion of pPCI for different age and gender categories from 2000 to 2004.](chart.png)
AMI 30 days mortality after pPCI 2004

[Graph showing 30 days mortality by age and PCI status, with bars for No PCI and PCI groups for each age group.]
30 days mortality: thrombolysis or pPCI 2005
Primary PCI in Hungary
12-15 000 STEMI (estimated)

Number of pPCI

Years

2002 2003 2004 2005 2006

Nyiregyháza
Győr
Miskolc
Bfüred
ZE
OGYK
Bajcsy Zs.K.
BIK
GOKI
DOTE
SZOTE
POTE
SE CVC
Budapest – pPCI duty (ÁNTSZ) number and distribution of admitted patients

Total: n=1761
Total: n=1998
Total: n=2114

2003 2004 2005

<table>
<thead>
<tr>
<th>Year</th>
<th>Region</th>
<th>On Duty, All Budapest</th>
<th>Off Duty</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>712</td>
<td>905</td>
<td>144</td>
</tr>
<tr>
<td>2004</td>
<td>851</td>
<td>1037</td>
<td>110</td>
</tr>
<tr>
<td>2005</td>
<td>848</td>
<td>1158</td>
<td>108</td>
</tr>
</tbody>
</table>

+13.4% +5.8%
## Number of coronary interventions in Hungary in the year 2006

<table>
<thead>
<tr>
<th>Description</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coronarographies (number of cases)</td>
<td>36991</td>
</tr>
<tr>
<td>PCIs</td>
<td>15070</td>
</tr>
<tr>
<td>PCIs with indication of AMI</td>
<td>6596</td>
</tr>
<tr>
<td>PCI with diagnostic coronarography (ad hoc)</td>
<td>13224</td>
</tr>
<tr>
<td>Radiobrachial approach</td>
<td>2972</td>
</tr>
<tr>
<td>Implanted DES</td>
<td>2879</td>
</tr>
<tr>
<td>DES penetration</td>
<td>14%</td>
</tr>
</tbody>
</table>
Map of Hungary

Number of GUCH patients followed on regularly

- Sopron: 1050
- Budapest: 1050
- Debrecen: 120
- Zalaegerszeg: 483
- Pécs: 84
- Szeged: 84

Outpatient Clinic for GUCH patients

Adult Congenital Heart Surgery (for complex lesions)
2005. Aortic coarctation in GUCH pts
Diagnosis (Gy.Balázs)
Intervention (A.Szatmári)
Surgery (Cs.Dzsinich)
Follow-Up (A.Temesvári)

2006. Pregnancy and Heart Disease in GUCH pts
Hemodynamic features of pregnancy (J.Rigó)
Cooperation of GUCH Clinic and Gynecology Dept. (A.Temesvári)
High cardiac risk pregnancy (Cs.Liptai)
Fetal Cardiology (K.Kádár)

2007. Congenital Aortic Stenosis
Anatomy (K.Kádár)
Natural history (A.Temesvári)
Intervention (A.Szatmári)
Surgery- valvuloplasty, mechanical valves, Ross procedures (G.Bogáts, I.Hartyánszky, L.Papp)
GUCH Working Group
Scientific activity II.
Regular Postgraduate Courses

2005. Grown – up Congenital Heart Disease update
PM therapy in GUCH pts (G. Bodor, Cs. Földesi, T. Szili-Török, J. Ványi)
Transposition of Great Arteries (L. Környei, I. Hatyánszky, L. Király)
M. Ebstein (H. Bálint, A. Temesvári, D. Paprika, Zs. Prodán)
Eisenmenger syndrome (K. Karlóczai, Cs. Liptai, A. Szatmári)
Future of heart transplantation in children in Hungary (L. Ablonczy)

2006. Right ventricle in congenital heart disease
RV function assessment (K. Kádár, A. Temesvári)
MRI asessement of PI (A. Tóth)
Tricuspid regurgitation (H. Bálint, L. Környei)
Tricuspid valve surgery (K. Király)
RV outflow obstruction surgery (I. Hatyánszky)
Intervention (A. Szatmári)
Arrhythmias (T. Szili-Török)
ARVD diagnosis (T. Simor)

2007. complex Congenital Heart Disease
(will held in Nov 16.2007)
GUCH Working Group
Scientific activity III.

9th Interdisciplinary Forum in collaboration with:
Hungarian Society of Cardiac Surgery
Hungarian Society of Pediatrics
Hungarian Society of Pediatric Surgery and
Hungarian Society of Cardiology

Grown-up Congenital Heart Disease
03.11.2006. Budapest

Epidemiology, diagnosis, management and prognosis.
Quality of life, sport activity.
Fetal cardiology, CHD and pregnancy, Heart transplantation in Hungary

(Accredited course with final examination)
Invited lectures held by Council members

* Annual Postgraduate Echo Course – Szeged
  (TTE and TE in GUCH pst)

* Annual meeting of Young Cardiologist in 2005
  Lillafüred (Adult Congenital Heart Disease
Electrotherapy of the heart in Hungary
Pacemaker centers in Hungary in 2006

New centers in 2006
Primary pacemaker implantations for conventional bradycardia indication

<table>
<thead>
<tr>
<th>Year</th>
<th>Implant/million population</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>471.0</td>
</tr>
<tr>
<td>2004</td>
<td>463.5</td>
</tr>
<tr>
<td>2005</td>
<td>482.3</td>
</tr>
<tr>
<td>2006</td>
<td>446.9</td>
</tr>
</tbody>
</table>
Primary PM implantations by device type

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>VVI/R</td>
<td>71,2 %</td>
<td>66,9 %</td>
<td>63,3 %</td>
<td>53,2 %</td>
</tr>
<tr>
<td>AAI/R</td>
<td>2,3 %</td>
<td>2,2 %</td>
<td>3,1 %</td>
<td>1,4 %</td>
</tr>
<tr>
<td>VDD/R</td>
<td>6,0 %</td>
<td>9,4 %</td>
<td>5,8 %</td>
<td>8,7 %</td>
</tr>
<tr>
<td>DDD/R</td>
<td>20,5 %</td>
<td>21,5 %</td>
<td>27,8 %</td>
<td>31,8 %</td>
</tr>
</tbody>
</table>
ICD implantations for secondary and primary prevention of SCD

<table>
<thead>
<tr>
<th>Year</th>
<th>Implant/million population</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>33.9</td>
</tr>
<tr>
<td>2004</td>
<td>31.0</td>
</tr>
<tr>
<td>2005</td>
<td>37.9</td>
</tr>
<tr>
<td>2006</td>
<td>37.2</td>
</tr>
</tbody>
</table>
ICD implantations by device type

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>VVICD</td>
<td>57.8%</td>
<td>67.4%</td>
<td>52.6%</td>
<td>73.9%</td>
</tr>
<tr>
<td>DDDCD</td>
<td>42.2%</td>
<td>32.6%</td>
<td>47.4%</td>
<td>26%</td>
</tr>
</tbody>
</table>
CRT centers in Hungary
Cardiac Resynchronisation Therapy in Hungary

<table>
<thead>
<tr>
<th>Year</th>
<th>CRT-P/million population</th>
<th>CRT-D/million population</th>
<th>Total/million population</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>7,0</td>
<td>3,3</td>
<td>10,3</td>
</tr>
<tr>
<td>2004</td>
<td>9,0</td>
<td>7,5</td>
<td>16,5</td>
</tr>
<tr>
<td>2005</td>
<td>28,0</td>
<td>8,0</td>
<td>36,0</td>
</tr>
<tr>
<td>2006</td>
<td>21,0</td>
<td>16,0</td>
<td>37,0</td>
</tr>
</tbody>
</table>
EP centers in Hungary

- EP/ablation center
- EP/ablation center with electoanatomical mapping system
Number of ablations in Hungary

<table>
<thead>
<tr>
<th>Year</th>
<th>Ablation</th>
<th>CARTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>849</td>
<td>66</td>
</tr>
<tr>
<td>2004</td>
<td>1424</td>
<td>180</td>
</tr>
<tr>
<td>2005</td>
<td>1785</td>
<td>293</td>
</tr>
<tr>
<td>2006</td>
<td>2295</td>
<td>388</td>
</tr>
</tbody>
</table>
AV-node ablations

2003 2004 2005 2006

- 2003: 60
- 2004: 80
- 2005: 108
- 2006: 126
AVNRT ablations

- 2003: 290
- 2004: 409
- 2005: 476
- 2006: 555
WPW syndrome, AVRT ablations
Atrial flutter ablations

- 2003: 209
- 2004: 368
- 2005: 460
- 2006: 574
Atrial fibrillation ablations

![Bar chart showing the number of atrial fibrillation ablations from 2003 to 2006. The number of ablations increased from 30 in 2003 to 309 in 2006.](chart.png)
Pulmonary vein isolation in atrial fibrillation with CARTO Merge technique
Ventricular tachycardia ablation
Postinfarction VT ablation with electroanatomical mapping and MRI integration
Epicardial ablation of post-MI incessant ventricular tachycardia
Other tachyarrhythmias:
atrial tachycardia or atypical flutter, etc.
Conclusions

The total number of pacemaker implantations in Hungary is comparable to other EU countries

- A more physiological approach is needed in bradycardia therapy
- There should be an increase in ICD implants, based on the data of primary prevention trials
- Despite the significant increase in the last years the number of CRT implantations in our country is lower than in the EU.

Major limitations are:

- Number of patients referred is low
- Implantation capacity of implanting centers
- The number of ablations and electroanatomical mapping procedures are steadily increasing
Hungarian Working Group on Echocardiography
Traditions
Hungarian WG on Echocardiography

- First Echo in Hungary: 1975
- WG Founded: 1986
- Members (2007): 316
  - 1/6 of all Hungarian WG members
- ESC Fellows (22)
- ESC Accredited
  - TTE (8)
  - TEE (2)
International Meetings Organized by or in Cooperation with the Hungarian Working Group on Echocardiography

- International Cardiac Doppler Society
- International Society of Cardiovascular Ultrasound (ISCU),
- Euroson
- ESC Extramural Teaching Courses
Hungarian WG on Echocardiography
Activities at National Meetings

- Echocardiography Sessions at the yearly Scientific Congress of the Hungarian Society of Cardiology (Balatonfured)

- Cardiac Imaging Sessions in cooperation with
  - WG on Cardiac Nuclear Imaging
  - WG on Cardiac MR
Accreditation in Echocardiography in Hungary

- Ministry of Health
- National Board of Accrediation in Echocardiography (since 2006)
- Compulsory License
- Three levels in Accreditation
  1. Included in the training for specialization in Cardiology (no independent reporting)
  2. Mid-level Specialist in Echocardiography (independent reporting, Head of Laboratory)
  3. High-level Specialist in Echocardiography (Head of Tertiary and Training Centers)
Hungarian WG on Echocardiography
Some Themes of our Scientific Sessions

- The digital echo laboratory
- Non-invasive methods in ischemic heart disease: benefits, limits, backdraws
- Sources of embolism
- Intracardiac echocardiography
- Prognosis: old aims, new methods
  - Diastolic LV dysfunction
  - Stress echo
  - Echo in heart transplantation
- Viability: definition, methods, relevance
Experimental Section of the Hungarian Society of Cardiology

This Section works under the auspices of the Hungarian Society of Cardiology. Our mission is to assemble scientists acting on various fields of cardiovascular research and providing them a national forum to meet and discuss their achievements.
Achievements

In 2002, the European Section of the International Society for Heart Research held its 22nd meeting in Szeged. The local organizer of this meeting was Professor Ágnes Végh from the Department of Pharmacology and Pharmacotherapy at the University of Szeged.
The first International Symposium on Myocardial Cytoprotection (ISMC) was organised by the Department of Experimental Surgery of Pécs University, in conjunction with the Experimental Section of the Hungarian Society of Cardiology, in 1996.

Since then, four additional symposia (1998, 2000, 2003 and 2006) have successfully been organised by Professor Elisabeth Röth and her team, making this three day event a traditional and joyful get together for colleagues and friends working in the field of experimental cardiology.
The fifth ISMC symposium was held on 28-30 September, 2006 in Pécs, Hungary in close collaboration with the Hungarian Society of Cardiology and the International Academy of Cardiovascular Sciences. After all our aim was not only to share and highlight scientific advancement, but also to develop new ties and collaborations, not forgetting some good wholesome fun and relaxation.
Introduction of Working Group on Cardiac Rehabilitation and Exercise Physiology of the Hungarian Society of Cardiology 2007 Vienna
The Working Group was settled in 1983 as Working Group on Cardiac Rehabilitation.

The name was changed to Working Group on Cardiac Rehabilitation and Exercise Physiology of the Hungarian Society of Cardiology in 2001 in harmonization with the WG of ESC.

The WG has 185 members, it is the 5th biggest WG in the HSC.

The WG was leaded by:

- 1983-1992 Dr. Hoffmann Artúr
- 1992-1999 Dr. Tahy Ádám
- 1999-2001 Dr. Berényi István
- 2001-2004 Dr. Veress Gábor
- 2004-2007 Dr. Berényi István
- 2007 Dr. Simon Attila
The WG has good personal and scientific relationship with the former WG on Exercise Physiology and Cardiac Rehabilitation of ESC, that continues its activity in the European Association for Cardiovascular Prevention and Rehabilitation, a registered branch of ESC.

Three members of our WG worked in the Nucleus of European WG (E Böszörményi, G Veress, A Simon)
International Activities

- The official Spring Meeting of the European WG was organized two times in Hungary, in Balatonfüred, in 1988 and 1999
Working Group on Cardiac Rehabilitation and Exercise Physiology of the Hungarian Society of Cardiology
• Our Working Group participated in the organisation of European Cardiac Rehabilitation Database.

• In the cooperation with Ludwig Maximilian University of Münich we participated in the development of Core Sets of ICF on the field of cardiology, and involved several patients into an international study dealing with usefulness of ICF during cardiac rehabilitation.

• We participate in the RELAX-ICD International Study organized by the European Working Group evaluating the psychological aspects and quality of life of living with ICD.
Activities of the Working Group on Myocardial Diseases and Heart Failure of the Hungarian Society of Cardiology

- Data of one of the largest hospital-based management programs:
  - Patient number: 404
  - Male: 71%
  - Average age: 58.8 years
  - Average NYHA class: 3.017
  - Average LVEF: 31.48%
  - Underlying diseases:
    - Ischaemic etiology: 39.8%, DCM: 47%
    - Diabetes mellitus: 46.2%
    - Hypertension: 81%
  - Treatment: according to the latest guidelines, application of direct acting vasodilators too in NYHA class III-IV patients
  - CRT or CRT-D: 11.1%
  - 5-years survival rate: 61%
Working Group on Heart Muscle Diseases and Heart Failure, Hungarian Cardiac Society

- **Major recent scientific symposia, organised by the WG:**
  - „New results in the treatment of heart failure. Should we change the guidelines?” Annual Meeting of the Hungarian Cardiac Society, Balatonfüred, May 13, 2004
  - „Current state of cardiac transplantation in Hungary” National Medical Center, Budapest, October 20, 2004
  - „Treatment of Heart Failure” Annual Meeting of the Hungarian Cardiac Society, Balatonfüred, May 11, 2005
  - „Modern approach to chronic heart failure” Annual Meeting of the Hungarian Cardiac Society, Balatonfüred, May 12, 2005
  - „Selected topics in cardiomyopathies and heart failure” Debrecen Cardiology Days, Debrecen, March 3, 2005
Recent guidelines published by the WG:


Working Group on Heart Muscle Diseases and Heart Failure, Hungarian Cardiac Society

- Main topic of interest and research areas of the WG:
  - Molecular and clinical genetics of cardiomyopathies
  - Current treatment of heart failure
  - Stem cell therapy
  - Mortality and morbidity due to cardiomyopathies and heart failure in Hungary
  - Risk stratification in hypertrophic cardiomyopathy
  - Diagnosis and treatment of non-compaction cardiomyopathy
  - Role of cytokines in cardiomyopathies
  - Role of MRI in the diagnosis and risk stratification of cardiomyopathies
Out of the membership of HSC, there are 104 official members of the WG and – as our topics are generally fascinating – a much larger group of physicians, including GPs.

Each year the WG organized independent scientific sessions at HSC Annual Congress in Balatonfüred.
WG: Cardiovascular Drug Therapy

- Scientific session for the WG in 2007 at the HSC Congress in Balatonfüred:
  - Prevention of ischaemic heart disease by pharmacotherapy

- **Chair**: István Czuriga, János Tomcsányi

- **Program**:
  - Aladár Rónaszéki: *Pharmacologic coronary angioplasty: a more elegant solution?*
  - Viktor Nagy: *Polypill or Monopills?*
  - Lajos Matos: *What is out of Polypill?*

HSC: Hungarian Society of Cardiology
Cardiopulmonary working group of Hungarian Society of Cardiology and Hungarian Society of Pulmonology
Cardiopulmonary working group of Hungarian Society of Cardiology and Hungarian Society of Pulmonology

- Founded in Budapest in 1989.
- Members of working group: 100 people.
- Board of directors of the working group include 7 person – pulmonologists, cardiologists and anaesthesiologists.
- President: Ernő, KIS
- Secretary: Kristóf, KARLÓCAI
Cardiopulmonary working group of Hungarian Society of Cardiology and Hungarian Society of Pulmonology

- Scientific fields: cardiopulmonary circulation, pulmonary embolism, infections, arrhythmias, pulmonary hypertension, transplantation, sleep disorders, intensive care, rehabilitation of cardiopulmonary patients.

- Scientific activity: annual meetings in various places in Hungary.

- In 2006 we organized our ten years anniversary scientific meeting in Dobogókő, the next will be in Debrecen.

- Our plan is to keep strong connections with same working groups of ESC and ERS.
HSC Working Group HAH

Out of the membership of HSC, there are 102 official members of HAH and - as our topics are generally fascinating – a much larger group of interested doctors, including GPs.

Each year HAH organized independent scientific sessions both at HSCs annual congress in Balatonfüred and at HSHs congress in Budapest.

HSC: Hungarian Society of Cardiology / HAH: Hypertonia disease And the Heart
In the last years HAH scientific sessions were dealing with most interesting topics of hypertension e.g.

- „Beliefs, misbeliefs and facts in antihypertensive therapy” (HSH, 2003)
- „Decreasing blood pressure: are there any limits? (HSH, 2006)
- „Antihypertensive therapy in the past and present. And what about future? (HSC, 2007)
Working Group on Cardiovascular Magnetic Resonance
Working Group on Cardiovascular Magnetic Resonance

- First CMR in Hungary: 1999
- WG Founded: 2006
- Chairman: Tamás Simor MD, PhD.  
  Associate Professor
- University of Pécs, Faculty of Medicine, Heart Institute  
  Str. Ifjusag, Pécs, H-7624, Hungary  
  Phone: +36 72 536001/5603, Fax: +36 72 536399  
  E-mail: tamas.simor@aok.pte.hu
- Members (2007): 11
  - EuroCMR exam: 5 members
- Cardiac MRI sites:  
  - Budapest, Kaposvár, Pécs, Sopron
Working Group on Cardiovascular Magnetic Resonance

- Professional Courses for education of specialists (cardiology and radiology)
  - Two times yearly

- Participation in Professional education of Echocardiography
  - „Echo-Days“ in Szeged
  - National Congress of Radiology
Working Group on Cardiovascular Magnetic Resonance

- Yearly Scientific Congress of the Hungarian Society of Cardiology (Balatonfüred)

- Cardiac Imaging Sessions in cooperation with
  - WG on Cardiac Nuclear Imaging and WG on Echocardiography
  - Famous international speakers
    - 2007 Van der Geest (NL)
Working Group on Cardiovascular Magnetic Resonance

- Oral and poster presentations on National Congresses Cardiology, Radiology and Internal Medicine
  - 20-30 / year

- Abstracts on European Congresses
  - (ESC, EuroEcho, EuroCMR, Heart Failure)
    - 5-8 / year

- Papers
  - 4-5 / year