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beginning
were two
chairs ...



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4th European EISCSA Congress
May 25th – 27th, 2006



Final Program

**CHALLENGES IN EXERCISE
TRAINING & THERAPY**

Hosted by

Medical University Graz and
Karl-Franzens-University Graz



European Interdisciplinary Society for Clinical and Sports Applications - **EISCSA**

and

Austrian Working Group for Theoretical and Clinical Exercise Medicine - **ATKL**



Time Table

Thursday, May 25th 2006

13:00 *Begin Registration* Congress Office

Pre-Symposium

14:00 „Auswirkungen von Höhe auf Gesunde und Kranke“ HS A

16:00 Update „Sportmedizinische Trainingsberatung“ HS A

19:00 **Congress Evening** – Invitation of the Mayor of Graz Aula

Friday, May 26th 2006

08:30 *Begin Registration* Congress Office

09:00 *Exhibition Opening* Exhibition Area

09:15 **Congress Opening** HS A

09:30 T1: Exercise Training as Therapy HS A

11:30 T2: Genetics HS A

Lunch Break

14:30 T3: Strength and Conditioning in High-Level Athletes HS A

16:30 T4: Rehabilitation – Gait Analysis HS A

Time Table

09:00 – 18:30 **Poster Sessions P1 – P6** Poster Area

20:00 **Congress Evening** – Invitation of the Styrian Governor
Eggenberg Castle

Saturday, May 27th 2006

09:00 T5: Exercise Testing in Health and Disease HS A

11:15 T6: Obesity and Co-Morbidities HS A

Lunch Break

13:30 **State of the Art Session** – Standards in Strength Testing:
Basic Considerations and Practical Applications HS A

15:30 T7: Vibration Training in Health and Disease HS A

17:40 T8: Injuries – Management and Prevention HS A

09:00 – 18:30 **Poster Sessions P7 – P8** Poster Area

19:00 **Final Remarks and Closing Session** HS A

Thursday, May 25th 2006

14:00 – 15:35 Pre-Symposium (German)
„Auswirkungen von Höhe auf Gesunde und Kranke“
Chairs: P. Bärtsch / G. Schwabegger

- 14:00 *ARGE Alpinmedizin – Begrüßung und Eröffnung*
- 14:10 **P. Bärtsch:** Auswirkungen von Höhe auf Patienten mit Herz-Kreislauf- und Stoffwechselerkrankungen
- 14:55 **W. Domej:** Auswirkungen von Höhe auf Patienten mit respiratorischen Erkrankungen
- 15:15 **M. Burtscher:** Höhentherapie – Intermittierende Hypoxie
- 15:35 Break

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Thursday, May 25th 2006

16:00 – 18:00 Pre-Symposium (German)
Update „Sportmedizinische Trainingsberatung“
Chairs: H. Hörtnagl / H. Förster

- 16:00 *ATKL – ARGE für Theoretische und Klinische Leistungsmedizin der Universitätslehrer Österreichs – Begrüßung und Eröffnung*
- 16:10 **H.-H. Dickhuth:** Sportmedizinische Trainingsberatung aus der Sicht der Deutschen Gesellschaft für Sportmedizin und Prävention
- 16:30 **H. Hörtnagl:** Sportmedizinische Trainingsberatung aus der Sicht der Österreichischen Gesellschaft für Sportmedizin und Prävention
- 16:50 **G. Fritsch:** Sportmedizinische Trainingsberatung aus der Sicht des niedergelassenen Sportmediziners
- 17:10 **M. Kessler:** Sportmedizinische Trainingsberatung aus der Sicht der Trainer und Athleten
- 17:30 Podiumsdiskussion

19:00 Congress Evening
Invitation of the Mayor of Graz
Karl-Franzens-University Graz (Aula)

Friday, May 26th 2006

08:30 *Begin Registration*

Congress Office

09:00 *Exhibition opening*

Exhibition Area

09:15 **Congress Opening**

HS A

09:30 **T1: Exercise Training as Therapy**

Chairs: J.-P. Schmid / M. Wonisch

**Key Note: J.-P. Schmid
Exercise Training in Heart Failure Patients**

M. Sandri, S. Erbs, R. Höllriegel, V. Adams, A. Linke, E. Beck, G. Schuler, R. Hambrecht: Physical exercise training increases number and improves the function of circulating endothelial progenitor cells in patients with end-stage heart failure

B. Foubíková, K. Řasová, F. Zahálka¹, V. Bunc: Fatigue and postural functions of patients with a multiple sclerosis

H. Gatterer, M. Flatz, M. Burtscher: Effects of a 3-year exercise program on exercise capacity in previously sedentary people

P. Tomas-Carus, A. Hakkinen, K. Hakkinen, A. Ortega-Alonso, N. Gusi: Short- and long-term effects of an aquatic training on the health related quality of life and fitness in fibromyalgia

11:00 Break

Friday, May 26th 2006

11:30 **T2: Genetics**

Chairs: H. Michna / P. Hofmann

**Key Note: H. Michna
Genetics in Sports and Medicine**

C. Döring, V. Adams, A. Linke, N. Kränkel, S. Erbs, G. Schuler, R. Hambrecht: Increased expression of E3 Ubiquitin Ligase Murf-1 and MafBx in cardiomyocytes after induction of heart failure: Impact of inflammatory cytokines and exercise training

M. Sandri, V. Adams, S. Gielen, A. Linke, K. Lenk, N. Kränkel, S. Erbs, G. Schuler, R. Hambrecht: Effects of exercise and ischemia on mobilization and functional activation of blood-derived progenitor cells in patients with ischemic syndromes

G. Neumayr, O. Ludwiczek, H. Hoertnagl, R. Pfister, G. Mitterbauer, A. Moschen, D. Novick, M. Rubinstein, H. Tilg: The impact of prolonged strenuous endurance exercise on Interleukin 18 and Interleukin 18 binding protein in recreational cyclists

12:45 Break

Friday, May 26th 2006

**14:00 T3: Strength and Conditioning
in High-Level Athletes**

Chairs: Ch. Raschner / H. Hörtnagl

Evidence Based Strategies for Practical Application

I. Jukic:

Physical conditioning in high-level basketball

F. Mayer:

Strength and conditioning in motor sports athletes

Ch. Raschner:

Strength and conditioning in alpine ski racers

A. Schlumberger:

Strength and conditioning in high-level athletes in soccer

16:00 Break

Friday, May 26th 2006

16:30 T4: Rehabilitation – Gait Analysis

Chairs: A. Belli / F.-J. Seibert

Key Note: A. Belli

Gait Analysis in Special Populations

T. Jöllenbeck, D. Leyser, C. Grüneberg: Nordic walking – a field study of biomechanical loading of the lower extremities

A. Kranzl, H.M. Manner, F. Grill: Gait analysis in dysplasia of the cruciate ligaments

C. Szubski, M.C. Liebensteiner, H.-P. Platzer, C. Raschner: The effects of eccentric contractions on knee valgus motion and muscle activity in gender

P. Šifta, F. Zahálka, J. Süsová: Longitudinal observation of walking stereotype and its changes in patients suffering from stroke or brain injury

20:00 Congress Evening

Invitation of the Chancellor of Styria

Eggenberg Castle

09:00 – 18:30

Poster P1 - 6 / Poster Area

P1 Exercise Training as Therapy

M. Aimet, J. Lampichler, U. Musil, R. Spiesberger, J. Pelikan, J. Schmid, G. Haudum, D. Weissshaidinger, M. Rupp, R. Pokan, U.A. Zifko: High and moderate intensities in strength training in multiple sclerosis patients

H. Felder, C. Grüneberg, M. Hoffmann, J. Frey: Cross transfer effects: Approach to identify training parameters for rehabilitation

M. Fröhlich, H. Felder, A. Pieter: Evaluation of sport therapy by patients with neuromuscular diseases

A. Kern, R. Pokan, G. Smekal, P. Hofmann, M. Wonisch, S.P. von Duvillard, N. Bachl: School sports and osteoporosis prevention: A meta-analysis

H. Traninger, H. Harpf, L. Harpf, S. Harb, G. Tscheppe, P. Hofmann, M. Wonisch: Benefits on performance specific parameters after a one year ambulant cardiac rehabilitation (Phase III)

E.-M. Miggitsch, M. Trapp, H. Lackner, G. Schwabberger, O. Wieser: Influences of an ergotropic task on vigilance

R. Spiesberger, M. Aimet, G. Haudum, J. Lampichler, U. Musil, J. Pelikan, R. Pokan, M. Rupp, J. Schmid, D. Weissshaidinger, U.A. Zifko: Effects of a moderate unilateral strength training in patients with different continuous course of multiple sclerosis

N. Gusi, A. Legaz, P. Tomas-Carus, N. Estrada, D. Mungia: Cost-utility of water- and land-based exercise therapies in fibromyalgia

H. Traninger, M. Wonisch, H. Harpf, L. Harpf, S. Harb, G. Tscheppe, P. Hofmann: Benefit of blood lactate determination during ergometer training in cardiac rehabilitation

B. Eder, P. Hofmann, D. Brandt: Effects of early cardiac rehabilitation exercise training in old patients after heart surgery

P2 Genetics

M. Lamprecht, J. Greilberger, P. Hofmann, G. Schwabberger, W. Mlekusch: Supplementation with antioxidants attenuates glutathione peroxidase activities at rest, during and after endurance exercise

I. Christodoulou: Neuroendocrine and autocrine effects of CRH system on skeletal muscles

B. Haditsch, A. Rössler, H. Frisch, F. Waldhauser, H. Hinghofer-Szalkay: Adrenomedullin and volume regulation in humans under extreme conditions

09:00 – 18:30

Poster P1 - 6 / Poster Area

P. Hofmann, M. Wonisch, L. Cichozki, F.-J. Seibert, S. Kranz, R. Pokan, S.P. von Duvillard, G. Schwabberger: Heart rate performance curve and Gly³⁸⁹ Arg β 1-adrenoceptor polymorphism

P3 Obesity and Co-Morbidities

I. Christodoulou, Ch. Pogonidis, E. Xenodoxidou: Determining the multidisciplinary approach in morbid obesity therapies

W. Gröschl, T. Müller, W. Müller: The Mass Index MI considers the relative leg length which is ignored by the BMI: Results with tall athletes

P4 Vibration Training in Health and Disease

N. Gusi, J. Parraca, P. Tomas-Carus, A. Leal, A. Raimundo: Influence of the grade of knee flexion on mechanical and electromyographical impact during the whole body vibration exercise

P5 Injuries – Management and Prevention

I. Christodoulou, Ch. Pogonidis, E. Xenodoxidou: Rehabilitation of trauma victims in Greece

R. Kittel, W. Bernstädt, D. Lazik, G. Badtke: Changed function of cervical spine by rock climbing?

E. Gallasch, M. Fend, D. Rafolt, W. Mayr, H. Kern: FES-induced knee joint moments in long-term denervated muscles

P6 Rehabilitation – Gait Analysis

M. Jürgel, J. Maaros: Clinical gait analysis in female patients with knee osteoarthritis before and after unilateral total knee arthroplasty

I. Kobenz, K. Engelke: Dynamic laser induced leg axis control system – a new method for controlling and stabilizing the dynamic axis of the leg

M. Schwed, C.T. Haas, S. Turbanski, I. Reuter, D. Schmidtbleicher: Biomechanical analysis of gait adaptability

Saturday, May 27th 2006

09:00 T5: Exercise Testing in Health and Disease

Chairs: H.-H. Dickhuth / R. Pokan

Key Note: H.-H. Dickhuth

Performance Diagnostics in Athletes and Patients

V. Bunc, P. Hráský, J. Baláš: Laboratory testing and physiological characteristics of top Czech soccer players

H. Pessenhofer, H. Muralter, N. Sauseng: Influence of different work load protocols on standard criteria of physical performance and on characteristics of lactate kinetics

G. Neumayr, R. Pfister, G. Mitterbauer, G. Eibl, H. Hoertnagl: Effect of competitive marathon cycling on plasma N-terminal pro-brain natriuretic peptide and cardiac troponin T in healthy cyclists

C. Patterson, C. Raschner, H.P. Platzer, R. Puehringer: A comparison of different tests to assess lower extremity left/right strength imbalances

W. Müller, B. Schmölder: The human power spectrum: Maximum physical power is a function of activity duration

10:45 Break

Saturday, May 27th 2006

11:15 T6: Obesity and Co-Morbidities

Chairs: K. Sudi / E. Ledl-Kurkowski

Key Note: K. Sudi

Epidemiology of Obesity and Hormonal Markers

G. Smekal, C. Franz, S. Jerabek, D. Weghuber, R. Pokan, S.P. von Duvillard, P. Hofmann, H. Tschan, R. Baron, M. Wonisch, N. Bachl, and K. Widhalm: A 12 week endurance training program conducted in obese children

A. Murg, M. Wonisch, H. Toplak: Evaluation of two methods for the estimation of physical activity of obese patients

V. Bunc: Body composition as a determinant factor of the aerobic fitness and physical performance

12:30 Break

Saturday, May 27th 2006

13:30 State of the Art Session - EISCSA

Standards in Strength Testing
Basic Considerations and Practical Applications
Chair: A. Schlumberger

15:00 Break

**15:30 T7: Vibration Training in Health
and Disease**

Chairs: D. Schmidbleicher / Z. Dvir

Key Note: D. Schmidbleicher

Potentials of Stochastic Resonance in Neuro Rehabilitation

N. Gusi, A. Raimundo, A. Leal: Whole-body vibratory exercise reduces the risk of bone fracture

K. Herren, C.H. Hängärtner, J. Mathis, L. Radlinger: Acute cardiovascular and metabolic strain during whole body vibration training (Zeptor[®]) with patients following stroke

16:40 Key Note: Z. Dvir

**Short Range of Motion Isokinetic Testing:
Research Findings and Clinical Applications**

17:10 Break

Saturday, May 27th 2006

**17:40 T8: Injuries – Management and
Prevention**

Chairs: F.-J. Seibert / E. Brassinne

Key Note: F.-J. Seibert

Management and Prevention of Arm and Hand Injuries

G. Luder, G. Deschner, M. Rocourt, L. Radlinger: Sensorimotor, conditional and functional deficits after surgical hip dislocation

E. Brassinne, A. Gourmay, D. Mouraux, P.M. Dugailly: Repeated bout effect on eccentric exercise-induced muscle damage: Study of the cross-over effect

A. Hirschmüller, S. Müller, H. Baur, H.-H. Dickhuth, F. Mayer: The efficiency of sensorimotor training in treatment of tendinopathies in athletes

**19:00 Final remarks and closing session
4th European EISCSA Congress**



Medical University Graz and Karl-Franzens-University Graz

09:00 – 18:30

Poster P7 - 8 / Poster Area

P7 Exercise Testing in Health and Disease

A. Mahrova, V. Bunc, H. Fischerova: An acceptable fitness test battery for patients with chronic renal failure treated with dialysis

S. Kranz, M. Wonisch, F. Fruhwald, G. Schwabberger: Influence of cardioselective beta-blockade on the occurrence of exercise induced arterial hypoxemia

A. Primus, R. Pokan, P. Hofmann, S.P. von Duvillard, M. Wonisch, G. Smekal, N. Bachl: Blood lactate concentrations at the lactate threshold and the respiratory compensation point in comparison to the maximal blood lactate steady-state in patients with different cardio-vascular diseases and healthy subjects

H. Holzer, O. Fleiss, H. Fleiss, S. Kellner: A new method for testing motor performance in children

M. Trapp, H. Lackner, E.-M. Miggitsch, O. Wieser, G. Schwabberger: Interaction of heart rate variability (HRV) with ergotropic and mental tasks

M. Bodenlenz, H. Wedig, R. Hellmich, B. Gruendig, C. Zaugg, G. Koehler, M. Wonisch, L. Schaupp, T.R. Pieber: Continuous lactate monitoring during exercise by means of a portable device

F. Petter, R. Malatschnig, W. Gröschl W. Müller, G. Schwabberger, P. Hofmann: Lactate kinetics depend on the on-phase power setting

M. Lamprecht, P. Hofmann, G. Schwabberger: Supplementation with antioxidants has no influence on oxygen uptake and lactate concentrations in a cycle ergometer step test

W. Mekonen, G. Schwabberger, M. Lamprecht, P. Hofmann: Antioxidant vitamin intake on postprandial lipemia during exercise and recovery

A. Baskent: Measurements of two different positions at the back attachment on Biodex dynamometer

S. Müller, H. Baur, P. Mayer, A. Hirschmüller, J. Váth, F. Mayer: New aspects for exercise testing on dynamometer

P8 Strength and Conditioning in High-Level Athletes

H. Baur, A. Hirschmüller, S. Müller, G. Huber, F. Mayer: Force capacity of elite race car drivers in motor sports

A.H. Petersen, U. Bauer, G. Köhler, S. Korsatko, A. Wutte, T.R. Pieber, M. Wonisch: Transferability and reproducibility of objective and subjective parameters from exercise testing to training

09:00 – 18:30

Poster P7 - 8 / Poster Area

R. Kittel, K. Misch, S. Ellwanger, M. Schmidt, D. Lazik, G. Badtke: Functional adaptations of the locomotor-system due to boxing

T. Krueger: The effect of laterality on young athletes in flat water canoeing

H.-P. Platzer, C. Raschner, C. Patterson, R. Puehringer: Concentric/eccentric strength endurance differences in female alpine ski racers

I. Schamp, R. Pokan, S.P. von Duvillard, G. Smekal, P. Hofmann, M. Wonisch, N. Bachl: The effect of different wind forces on heart rate behaviour during freestyle windsurfing

I. Skorocká: Changes of selected body composition parameters in elite sprint runners during the training year

L.G. Sturm, P. Hofmann: Heart rate and heart rate variability in a microcycle with different training regimen

W. Müller, A. Fürhapter-Rieger: The Wingate test under-estimates maximum power: The sprint power test measures maximum power as a function of load

M. Wonisch, P. Hofmann, R. Pokan, G. Smekal, G. Schwabberger: Mode of exercise has a strong influence to the relative intensity of aerobic training recommendations in highly trained triathletes

M. Miranda, E. Semedo, J. Beckert, J. Fonseca-Esteves: Isokinetic dynamometry in the evaluation of anaerobic capacity in elite futsal players

I. Steiger, R. Pokan, G. Smekal, P. Hofmann, M. Wonisch, S.P. von Duvillard, N. Bachl: Comparison of laboratory and on-court endurance testing in 6 to 10 years old children

Die gesamte Veranstaltung ist für das Diplom-Fortbildungs-Programm der Österreichischen Ärztekammer mit 21 Fortbildungspunkten sowie für das ÖÖK-Diplom Sportmedizin mit 20 Punkten Theorie approbiert.

General Information

Congress Registration

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Fee in Euro	<i>after 1.3.06</i>
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Scientific Organization

Austrian Working Group for Theoretical and Clinical Exercise Medicine – **ATKL**
Prof. Dr. G. Schwabergger¹, PD DDr. M. Wonisch², Prof. Dr. F.-J. Seibert³,
Prof. Dr. P. Hofmann⁴

¹Institute of Systems Physiology, ²Dept. Internal Med., Div. Cardiology, ³Dept. Traumatology, Medical University Graz; ⁴Institute of Sports Science, Karl-Franzens-University Graz and Human Performance Research Centre, Karl-Franzens-University Graz & Medical University Graz

Congress Venue

Medical University Graz and Karl-Franzens-University Graz
"Vorklinikgebäude" at University Campus
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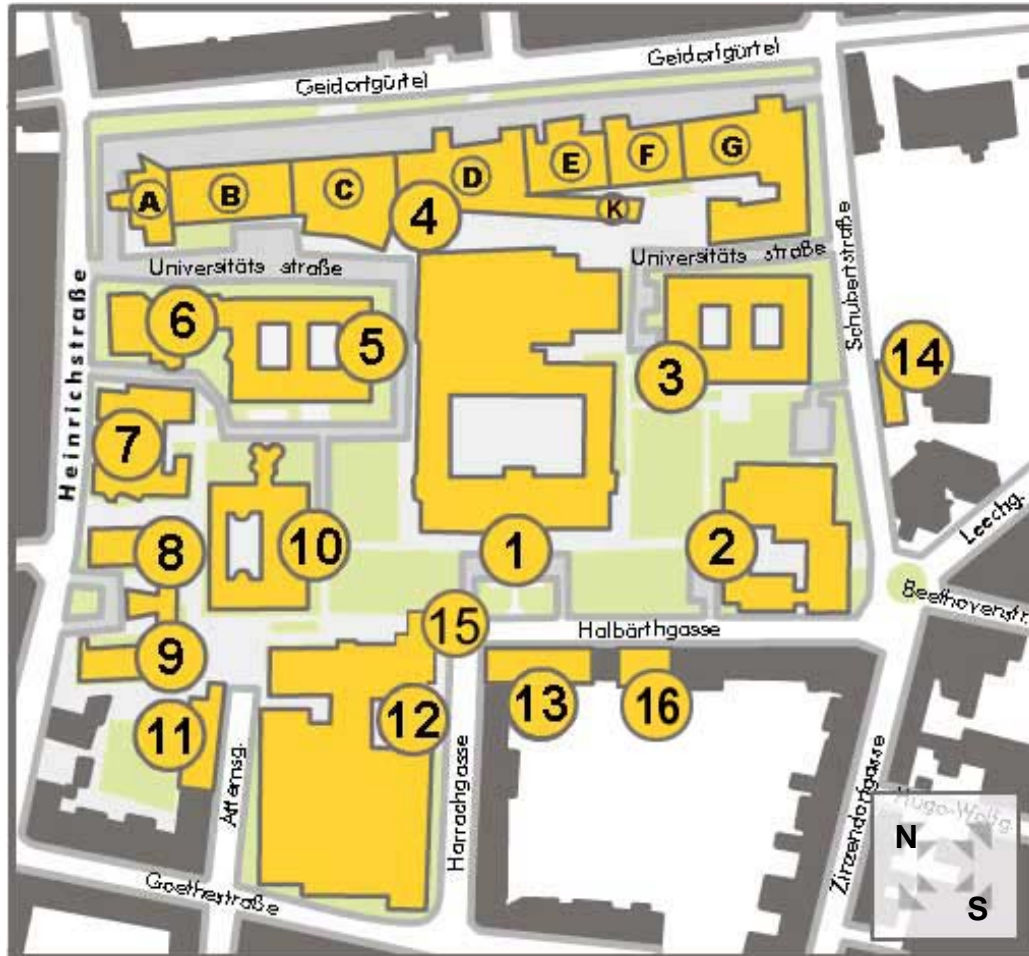
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Campus Plan



- 1 Main Building of the Karl-Franzens-University Graz (Aula)
- 12 Registration, Main Lecture Hall ("Vorklinikgebäude", HS A), Poster Area and Industry Exhibition